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55 Leicester Street, Brookline, MA 02146 (US).

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(74) Agents: CERPA, Robert, K. et al.; Morrison & Foerster  
LLP, 755 Page Mill Road, Palo Alto, CA 94304-1018 (US).

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TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW.(71) Applicants (*for all designated States except US*): DIGIS-  
CENTS [US/US]; Suite 720, 1814 Franklin Street, Oak-  
land, CA 94612 (US). YEDA RESEARCH AND DE-  
VELOPMENT CO., LTD. [IL/IL]; Weizmann Institute of  
Science, P.O. Box 95, 76100 Rehovot (IL).(84) Designated States (*regional*): ARIPO patent (GH, GM,  
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(72) Inventors; and

(75) Inventors/Applicants (*for US only*): BELLENSON, Joel  
[US/US]; 244 Lakeside Drive, Apartment 15, Oakland,  
CA 94612 (US). SMITH, Dexter [US/US]; 868 Trestle  
Glen Road, Oakland, CA 94610 (US). LANCET, Doron  
[IL/IL]; 15 Weizmann Street, 76280 Rehovot (IL). GLUS-  
MAN, Gustavo [IL/IL]; 33/37 Ha'Aron Street, 79845  
Bnei Ayish (IL). FUCHS, Tania [IL/IL]; 12 Harav neria

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(54) Title: OLFACTORY RECEPTOR SEQUENCES

(57) Abstract: The present invention provides polynucleotide sequences which encode polypeptides involved in olfactory sensation. The present invention also provides the polypeptides encoded by these polynucleotide sequences, vectors comprising these polynucleotide sequences and host cells transfected with these polynucleotide sequences. The present invention further provides for functional variants and homologues of these polynucleotide sequences and the polypeptides encoded by these polynucleotides. Libraries of polypeptides are also provided. Also included in the present invention is the use of these polypeptides and libraries of polypeptides in screening odorant molecules to determine the correspondence (scent representation, scent fingerprint or scent profile) between individual odorant receptors (the polypeptides) and particular odorant molecules. Also encompassed by the present invention is the use of the scent representation, scent fingerprint or scent profile to re-create and edit scents.

## **OLFACTORY RECEPTOR SEQUENCES**

### **CROSS-REFERENCE TO RELATED APPLICATIONS**

5        This application claims priority benefit of United States Provisional Patent Application Serial No. 60/158,615, filed on October 8, 1999, and United States Provisional Patent Application Serial No. 60/184,809, filed on February 24, 2000. The contents of those applications are hereby incorporated by reference herein in their entirety.

### **STATEMENT OF RIGHTS TO INVENTIONS MADE UNDER FEDERALLY SPONSORED RESEARCH**

Not applicable.

### **TECHNICAL FIELD**

15        The present invention is in the field of human olfactory receptors and their use in screening for olfactory agonists and antagonists. The present invention pertains to isolated nucleotide sequences which encode human olfactory receptors and also to the proteins  
20        encoded by said nucleotide sequences. The present invention also encompasses vectors comprising the nucleotide sequences of the invention and further, host cells transfected with said vectors. The present invention also allows for the determination of primary scents and the identification of the odor receptors which are encoded to detect these primary scents as well as the determination of secondary scents and the identification of  
25        combinations of odor receptors which are encoded to detect such secondary scents.

## BACKGROUND ART

Our sense of smell plays an important role not only in our appreciation of our surroundings such as the smell of flowers or new mown grass, but also evolved as a survival skill. Numerous odorant molecules can be detected at extremely low concentrations, providing early warning of danger, such as the smell of smoke or contaminated food. Indeed, a potent example of this is that most pregnant women experience a heightened sense of smell, presumably to protect the fetus from the deleterious effects of food poisoning.

It is estimated that humans can detect millions of different molecular species; however, our nose can discriminate only a fraction of these different chemicals (Mombaerts *Curr. Opin. Genet. Dev.* 1999 9, 315-320), usually estimated at about 10,000 odorants (Axel, *Scientific American* 1995, October, 154-159). Odorants for terrestrial species such as humans, are volatile (air born) ligands which are detected by the olfactory system. Odorants have vastly different chemical structures and subtle differences can lead to pronounced changes in the perceived odor (Mombaerts, *supra*). For instance, when the hydroxyl group of octanol is replaced by a carboxyl group to give octanoic acid, its perceived odor changes from orange and rose-like to rancid and sweaty (Malnic *et al.*, *Cell* 1999 96, 713-723). The basis for these feats of sensory perception are just beginning to be understood at a cellular and molecular level.

The olfactory system contains millions of olfactory sensory neurons (OSNs) located in the olfactory epithelium of the nasal cavity. In humans, the olfactory epithelium occupies an area of approximately 5 cm<sup>2</sup>. The OSNs are bipolar with one end extending through the supporting cell into the mucosal layer, terminating in hairlike cilia. These cilia are the site of the olfactory receptors (OR) where the odorant ligands are thought to bind (Mombaerts *Curr. Opin. Genet. Dev.* 1999 9, 315-320, Hildebrand *et al.*, *Annu. Rev. Neurosci.*, 1997, 20, 595-631). The OSNs also have a single unbranched axon which leads to the olfactory bulb, a part of the brain containing approximately 2000 glomeruli where the axons terminate and initial processing of the sensory code takes place. OSNs expressing the same OR are randomly interspersed throughout the olfactory epithelium, but in both the nose and the bulb, information derived from different ORs is strictly segregated; each OSN in the nose and each glomerulus in the olfactory bulb appear to be dedicated to input from one or few OR type(s) (Malnic *et al.*, *Cell* 1999 96, 713-723). It also appears that the location of the glomeruli are conserved across individuals of a species, providing the first spatial processing of particular odorant patterns (Mombaerts *Curr. Opin. Genet. Dev.* 1999 9, 315-320). The domains in the olfactory bulb for

different odors may overlap, but the overall patterns are distinct (Hildebrand *et al.*, *supra*), therefore, it should be possible to identify and reproduce the characteristic pattern of a given odorant. Output neurons project from the olfactory bulb to the primary olfactory cortex and from there to the higher cortical areas of the brain and to the limbic system (Malnic *et al.*,  
5 *supra*; Hildebrand *et al.*, *supra*, 20, 595-631).

Until the identification of a large family of genes encoding putative odorant receptors (Buck & Axel *Cell* 1991 65, 175-187), progress towards understanding the process of odor recognition was negligible. In recent years there has been an explosion in this field as more and more putative odor receptors are isolated and cloned. The odorant receptor gene products  
10 have thus far been characterized through homology as seven transmembrane domain G protein-coupled receptors (GPCR). It is estimated that there are probably 500-750 OR-like sequences in humans, while there are 500-1000 OR genes in rat and mouse (Mombaerts *Curr. Opin. Genet. Dev.* 1999 9, 315-320). In mice, OR-like sequences make up approximately 1% of their genome, the largest known family in the mammalian genome, surpassing the complexity of  
15 even the immunoglobulin and T-cell antigen receptor gene families (Mombaerts, *supra*). The OR are concentrated on the surface of the OSN's mucus coated cilia and it is thought that odorant molecules bind to the OR in the olfactory epithelium and thereby initiate signal transduction. Current interpretation of recent experimental evidence favors the idea that each neuron expresses only one, or very few, ORs. Since mammals can detect at least 10,000 odors and  
20 there are approximately 1,000 or fewer ORs, each of the ORs must respond to several odorant molecules, and each odorant molecule must bind to several receptors. It is believed that various receptors respond to discrete parts of an odorant molecule's structure and that an odorant consists of several chemical groups each of which bind a characteristic receptor (Axel *Scientific American* 1995, October, 154-159; Malnic *et al.*, *Cell* 1999 96, 713-723).

25 The main signal transduction pathway mediated by OR homologues in vertebrate species involves G protein-mediated stimulation of adenylyl cyclase activity, resulting in cAMP elevation that opens cyclic-nucleotide gated channels with a non-specific cation selectivity (Mombaerts *Curr. Opin. Genet. Dev.* 1999 9, 315-320). However, there are still numerous unanswered questions and recently it has come to light that 38-76% of the human  
30 gene OR sequences that are being reported may be pseudogenes and therefore incapable of expressing the proteins that encode the olfactory receptors. Some of the incidences may be due to the method of extracting the genomic DNA libraries (Mombaerts, *supra*). Few pseudogenes have been found in other vertebrates and their incidence in libraries from testicular DNA is also

rare (Hildebrand *et al.*, *Annu. Rev. Neurosci.*, 1997, 20, 595-631). cDNA should not contain pseudogenes. There are a number of examples of ORs which have been successfully expressed and reactions to certain odorant ligands have been determined (Malnic *et al.*, *Cell* 1999 96, 713-723; Mombaerts, *supra*; Zhao *et al.*, *Science* 1998 279, 237-242).

5        Some attempts to express the ORs in heterologous cell lines resulted in the formation of inclusion bodies rather than the insertion of the proteins into the membrane (Kiefer *et al.*, *infra*). However, purification of the receptors after expression in *E. coli* and their insertion into lipid vesicles facilitates the use of these receptors in odorant ligand screening using a combination of photoaffinity labeling and Trp fluorescence (Kiefer *et al.*, *Biochemistry* 1996 10 35, 16077-16084). In addition, a functional human OR receptor protein has been expressed in HEK-293 cells and oocytes and found to interact with odorant ligands (Wetzel *et al.*, *J. Neurosci.* 1999 19, 7426-7433). There have also been, a number of successful efforts of expressing cDNA in insect Sf9 cells using *baculovirus* vectors (Mombaerts *Annu. Rev. Neuorsci.* 1999) as well as assays with neuronal tissue (Malnic *et al.*, *Cell* 1999 96, 713-723; 15 Zhao *et al.*, 1998; Firestein *et al.*, WO 98/50081). In addition, recent work accomplished the expression of chimeric mouse olfactory receptor sequences in HEK-293 cells and showed their reactivity towards a panel of odorant ligands, some at micromolar concentrations (Krautwurst *et al.*, *Cell* 1998 95 917-926). The drawback to expression in heterologous cell systems is the lack of working signal transduction pathways which can be used to detect responses to odorant 20 ligands; these drawbacks can be overcome with methods known in the art (e. g. U.S. Pat. No. 5,798, 275). There are also methods of expressing and assaying functional neuronal receptors in neuronal cells, including methods for detecting particular odorant ligand specificity (Malnic *et al.*, *supra*; Zhao, *supra*; Firestein *et al.*, *supra*).

25        Other publications of interest are: Chemical Senses 6: 343-349 (1981); Proc. Natl. Acad. Sci. USA 79: 670-674 (1982); Proc. Natl. Acad. Sci. USA 81(6): 1859-1863 (1984); Nature 316: 255-258 (1985); Brain Research 368: 329-338 (1986); J. Biol. Chem. 261: 1299-1305 (1986); Proc. Natl. Acad. Sci. USA 83(13): 4947-4951 (1986); J. Neurosci. 6: 2146-2154 (1986); J. Neurochem. 47: 1527-1533 (1986); Chemical Senses 13: 191-204 30 (1988); Biochem. J. 260:121-126 (1989); J. Biol Chem. 264: 6780-6785 (1989); Biochim. Biophys. Acta 1013: 68-72 (1989); J. Biol. Chem. 264: 18803-18807 (1989); Biochemistry 29: 7433-7440 (1990); FEBS lett. 270: 24-29 (1990); Chemical Senses 15: 529-536 (1990); Eur. J. Biochem. 196: 51-58 (1991); Nature 349: 790-793 (1991); Neurosci. Lett. 141: 115-

118 (1992); Developmental Brain Res. 73: 7-16 (1993); Proc. Natl. Acad. Sci., USA 90: 3715-3719 (1993); Human Mol. Genetics 3: 229-235 (1994); Eur. J. Biochem. 225: 1157-1168 (1994); European Journal of Biochemistry 238: 28-37 (1996); Receptors and Channels 4: 141-147 (1996); Genomics 37(2): 147-160 (1996); Protein Science 8: 969-977 (1999); Genomics 53: 56-68 (1998); Genomics 61:24-36 (1999); Genomics 63: 227-245 (2000); Trends in Neurosci. 7:35-36 (1984); Ann. Rev. Neurosci. 9:329-355 (1986); Trends Biochem. Sci. 12:63-66 (1987); Nature 351: 275-276 (1991); Nature 353: 799-800 (1991); Current Biol. 3(10): 668-674 (1993); Nature 372:321-322 (1994); Essays in Biochemistry. 33: 93-104 (1998); and Nature, 398 (6725): 285-287 (1999).

10           However, despite the forgoing, there has been relatively little work with human olfactory receptors, in particular in determining the sequences of large numbers of receptors, and less progress in determining the correspondence between particular human olfactory receptors and the scent(s) to which they respond.

15           All publications cited herein are hereby incorporated by reference in their entirety.

### **DISCLOSURE OF THE INVENTION**

20           An object of the invention is to determine the correspondence between ORs and the scent(s) to which they respond. Once this is accomplished, scents can be both analyzed and re-created for enhancing human experiences or eliciting particular responses. The present invention pertains to isolated polynucleotide sequences encoding polypeptides involved in olfactory sensation. The present invention also pertains to the proteins encoded by said nucleotide sequences. The present invention also encompasses vectors comprising the  
25           nucleotide sequences of the invention and further, host cells transfected with said vectors. The present invention also allows for the determination of primary scents and the identification of the odor receptors which are encoded to detect these primary scents as well as the determination of receptor complex scent components and the identification of combinations of odor receptors which are encoded to detect such receptor complex scent  
30           components scents.

The invention provides isolated polynucleotide sequences encoding polypeptides involved in olfactory sensation that are isolated from human olfactory epithelial tissue. The invention further provides expression vectors containing such nucleotide sequences. Also provided by the invention are purified polypeptides encoded by the nucleotide sequences. The invention further provides transformed cells which comprise a suitable host cell transfected with a suitable expression vector containing the nucleotide sequence encoding the receptor. The present invention also encompasses nucleotide sequences isolated from human olfactory epithelial tissue which encode receptors capable of binding odorant molecules. The invention further provides expression vectors containing such nucleotide sequences and homologues of both the polynucleotides and polypeptides. Further, the invention provides a means of using the nucleotide sequences of the invention in a method of screening odorant ligands to determine the specific binding of odorant molecules to a particular receptors, and further, determining the component odorant molecules of subjectively experienced smells, determining the combination odorant molecules and receptor stimulation or inhibition to re-create a particular scent. The binding of odorant molecules by the receptors encompassed in the present invention includes binding resulting in both the agonism (excitation/activation) and antagonism (inhibition/blocking) of receptor function(s) upon binding of the molecule.

Accordingly, the invention includes an isolated polynucleotide comprising a sequence encoding a polypeptide which is involved in olfactory sensation. The OR polypeptides encoded are found within the sequences depicted in polynucleotide sequences SEQ ID NO:1 through SEQ ID NO: 73 and SEQ ID NO:111 through SEQ ID NO:152, or a nucleotide sequence at least 95% homologous to said sequences. The invention also encompasses the translation products of those sequences. The invention further comprises expression vectors comprising said sequences, host cells containing such expression vectors and/or expressing the polypeptide encoded therein, or phage displaying the polypeptide encoded by the sequences. The use of functional fragments of receptors is also encompassed by the invention. Preparations of receptors, further including biological or synthetic molecules which maintain the stability and functional structure of the receptors, are also included in the invention. The invention further encompasses fragments of said polynucleotides which can be used as probes or primers to identify additional polynucleotide sequences through techniques known in the art, including those fragments depicted in SEQ ID NOs: 74-105.

The invention also includes additional isolated polynucleotide comprising a sequence encoding a polypeptide which is involved in olfactory sensation. The OR polypeptides

encoded are found within the sequences depicted in polynucleotide sequences SEQ ID NO:153 through SEQ ID NO: 1084, or a nucleotide sequence at least 95% homologous to said sequences. The invention also comprises the translation products of those sequences. The invention further comprises expression vectors comprising said sequences, host cells containing  
5 such expression vectors and/or expressing the polypeptide encoded therein, or phage displaying the polypeptide encoded by the sequences. The use of functional fragments of receptors is also encompassed by the invention. Preparations of receptors, further including biological or synthetic molecules which maintain the stability and functional structure of the receptors, are also included in the invention.

10 The invention also encompasses an isolated and purified olfactory receptor polypeptide comprising the sequence of SEQ ID NO: 1085 through SEQ ID NO: 2008, or a polypeptide sequence that is at least about 95% homologous to a polypeptide sequence of the group consisting of SEQ ID NO: 1085 through SEQ ID NO: 2008 and having olfactory receptor function. Host cells expressing such polypeptides and phages displaying such  
15 polypeptides are also encompassed by the invention. The use of functional fragments of receptors is also encompassed by the invention. Preparations of receptors, further including biological or synthetic molecules which maintain the stability and functional structure of the receptors, are also included in the invention.

Scents can be captured, analyzed and recorded by a sensory device using various  
20 methods. Scent capture can be initiated by the user or by an automatic sensing system. A scent can be analyzed in terms of its interaction with olfactory neurons of a mammalian, preferably human, olfactory system, or by the expression of individual receptors under appropriate conditions and appropriate assay conditions in multiwell plates or in terms of its perception by a panel of mammalian, preferably human, subjects. The interaction with olfactory neurons can  
25 be determined experimentally, in vitro, by determining the interaction of an odorant with olfactory receptors of a given type. Alternatively, the interaction with olfactory receptor can be determined using a computer simulation which provides information regarding the interaction of an odorant with the olfactory receptors. A panel of subjects can be used to represent odors in terms of their perception. The data so generated can be used to represent a scent in a manner  
30 which can be recorded in digital or other format, stored in media such as computer memory, disks, or printed format, and transmitted over a data network. The representation of the scent can be used to re-create the scent at a local or remote site using an emitter module. The

representation of the scent allows for scent editing, where desirable aspects of an odor are enhanced or added and undesirable aspects are attenuated or eliminated.

Accordingly, the invention also embraces libraries of olfactory receptors suitable for determining the interaction pattern of a composition with the receptors, comprising the  
5 expression products of at least two polynucleotides of SEQ ID NO:1 through SEQ ID NO: 73, SEQ ID NO:111 through SEQ ID NO:152, and SEQ ID NO: 153 through SEQ ID NO: 1084, where the polynucleotides encode functional olfactory receptors; or functional fragments of the expression products. Libraries of at least 50, 100, 200, or 500 receptors are also encompassed by the invention.

10 Also encompassed by the invention are libraries of olfactory receptors suitable for determining the interaction pattern of a composition with the receptors, comprising at least two polypeptides of SEQ ID NO: 1085 through SEQ ID NO: 2008, where the polypeptides are functional olfactory receptors; or functional fragments of the polypeptides. Libraries of at least 50, 100, 200, or 500 receptors are also encompassed by the invention.

15 The invention also embraces methods for determining the binding pattern of a composition with olfactory receptors, involving exposing the composition to an olfactory receptor library, and determining whether the composition binds to each olfactory receptor, thereby determining the overall binding pattern of the composition. In additional embodiments, the method also involves determining the approximate binding constant with  
20 which the composition, or the various chemicals within the composition, bind to the receptors; determining whether a receptor or functional fragment thereof is activated; and determining the absolute amount of activation, or amount of activation relative to another receptor or a control substance. The composition can consist essentially of one compound or chemical, or can comprise at least two compounds or chemicals.

25 The invention also embraces DNA arrays or DNA chips comprising the DNA segments derived from any combination of, or each of, SEQ ID NO: 153 through SEQ ID NO: 1084. The invention also embraces a method of determining differences among one or more individuals with respect to their olfactory faculties, comprising the steps of comparing the olfactory DNA of each individual against the array or chip.

30 The invention also embraces a method to determine single nucleotide polymorphisms in olfactory receptors, comprising the steps of uniquely amplifying olfactory receptor sequences from DNA obtained from one or more individuals, based on

primers designed according to the first 25 bases and the last 25 bases of any combination of, or each of, SEQ ID NO: 153 through SEQ ID NO: 1084, and determining the similarities and differences between said amplified DNA and the corresponding receptor from SEQ ID NO: 153 through SEQ ID NO: 1084.

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### **Brief Description of the Drawings**

Figure 1 depicts the isolated polynucleotide sequences, which encode polypeptides involved in olfactory sensation, corresponding to SEQ ID NOs: 1 - 73.

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Figure 2 depicts the isolated polynucleotide sequences, which encode polypeptides involved in olfactory sensation, corresponding to SEQ ID NOs: 111 - 152.

### **Detailed Description of the Invention**

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The present invention provides isolated polynucleotides comprising sequences that encode polypeptides which are involved in olfactory sensation and which can be used to screen odorant ligands, e.g., odorant receptor agonists and antagonists.

#### **Definitions**

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The term "olfactory receptor" (OR) refers to a polypeptide involved in olfactory sensation. An "olfactory receptor polynucleotide" or "OR polynucleotide" is a polynucleotide encoding a polypeptide involved in olfactory sensation.

The term "odorant ligand" as employed herein refers to a molecule that has the potential to bind to an olfactory receptor. Equivalent terms employed herein include "odorant", "odorant molecule" and "odorant compound". The term "binding" or "interaction" as used herein with respect to odorant ligands refers to the interaction of ligands with the receptor polypeptide where the ligands may serve as either agonists and/or antagonists of a given receptor or receptor function. An odorant ligand may thus directly cause a perception of odor (an agonist), or may block the perception of odor (an antagonist). An odorant ligand may include, but is not limited to, molecules which interact with polypeptides involved in olfactory

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sensation. Odorant ligands and molecules which interact with olfactory receptors are generally small, approximately 1000 Daltons, more preferably approximately 750 Daltons, more preferably approximately 500 Daltons, or even more preferably approximately 300 Daltons, hydrophobic molecules with a variety of functional groups. Small changes in structure can induce profound changes in odorant ligand binding and hence in the odor perceived by an individual.

A more detailed description of these sequences, as well as how these sequences were obtained, is provided below.

As used herein, a "polynucleotide" is a polymeric form of nucleotides of any length, which contain deoxyribonucleotides, ribonucleotides, and/or their analogs. The terms "polynucleotide", "nucleotide" and "nucleic acid" as used herein are used interchangeably. Polynucleotides may have any three-dimensional structure, and may perform any function, known or unknown. The term "polynucleotide" includes double-, single-stranded, and triple-helical molecules. Unless otherwise specified or required, any embodiment of the invention described herein that is a polynucleotide encompasses both the double-stranded form and each of two complementary single-stranded forms known or predicted to make up the double stranded form. Not all linkages in a polynucleotide need be identical.

The following are non-limiting examples of polynucleotides: a gene or gene fragment, exons, introns, mRNA, tRNA, rRNA, ribozymes, cDNA, recombinant polynucleotides, branched polynucleotides, plasmids, vectors, isolated DNA of any sequence, isolated RNA of any sequence, nucleic acid probes, primers, and adaptors. A polynucleotide may comprise modified nucleotides, such as methylated nucleotides and nucleotide analogs. The use of uracil as a substitute for thymine in a deoxyribonucleic acid is also considered an analogous form of pyrimidine.

In the context of polynucleotides, a "linear sequence" or a "sequence" is an order of nucleotides in a polynucleotide in a 5' to 3' direction in which residues that neighbor each other in the sequence are contiguous in the primary structure of the polynucleotide. A "partial sequence" is a linear sequence of part of a polynucleotide which is known to comprise additional residues in one or both directions.

If present, modification to the nucleotide structure may be imparted before or after assembly of the polymer. The sequence of nucleotides may be interrupted by non-nucleotide components. A polynucleotide may be further modified after polymerization, such as by

conjugation with a labeling component. Other types of modifications included in this definition are, for example, "caps", substitution of one or more of the naturally occurring nucleotides with an analog, internucleotide modifications such as, for example, those with uncharged linkages (e.g., methyl phosphonates, phosphotriesters, phosphoamidates, carbamates, etc.) and with charged linkages (e.g., phosphorothioates, phosphorodithioates, etc.), those containing pendant moieties, such as, for example, proteins (e.g., nucleases, toxins, antibodies, signal peptides, poly-L-lysine, etc.), those with intercalators (e.g., acridine, psoralen, etc.), those containing chelators (e.g., metals, radioactive metals, boron, oxidative metals, etc.), those containing alkylators, those with modified linkages (e.g.,  $\alpha$ -anomeric nucleic acids, peptide nucleic acids, etc.), as well as unmodified forms of the polynucleotide(s).

Further, any of the hydroxyl groups ordinarily present in the sugars may be replaced by phosphonate groups, phosphate groups, protected by standard protecting groups, or activated to prepare additional linkages to additional nucleotides, or may be conjugated to solid supports. The 5' and 3' terminal OH groups can be phosphorylated or substituted with amines or organic capping group moieties of from 1 to 20 carbon atoms. Other hydroxyls may also be derivatized to standard protecting groups.

Polynucleotides can also contain analogous forms of ribose or deoxyribose sugars that are generally known in the art, including, but not limited to, 2'-O-methyl-, 2'-O-allyl, 2'-fluoro- or 2'-azido-ribose, carboxycyclic sugar analogs,  $\alpha$ -anomeric sugars, epimeric sugars such as arabinose, xyloses or lyxoses, pyranose sugars, furanose sugars, sedoheptuloses, acyclic analogs and abasic nucleoside analogs such as methyl riboside.

Although conventional sugars and bases will be used in applying the method of the invention, substitution of analogous forms of sugars, purines and pyrimidines can be advantageous in designing a final product, as can alternative backbone structures like a polyamide backbone such as those used in peptide nucleic acids (PNAs).

A polynucleotide or polynucleotide region has a certain percentage (for example, 75%, 80%, 85%, 90%, 95% or 99%) of "sequence identity" to another sequence means that, when aligned, that percentage of bases are the same in comparing the two sequences.

Homology, as described herein, means that the polypeptide sequences that are encoded by the nucleic acids demonstrate a certain relatedness (i.e., there exists regions of conserved amino acids), but not the same amino acid identity. There is complete or 100% homology at a particular amino acid residue when the amino acids of sequences being compared are the same (there is identity) or represent a conservative amino acid substitution (there is homology). A

“conservative amino acid substitution” occurs when a particular amino acid is substituted by an alternate amino acid of similar charge density, hydrophobicity/hydrophilicity, size and/or configuration (e.g., Val for Ile). A “nonconservative amino acid substitution” occurs when a particular amino acid is substituted by an alternative amino acid of differing properties, that is, charge density, hydrophobicity/hydrophilicity, size and/or configuration (e.g., Val for Tyr). The nucleic acid sequences within the scope of the present invention include those nucleic acids which differ in exact sequence from those listed in SEQ ID NO:1 through SEQ ID NO:73 and SEQ ID NO:111 through SEQ ID NO:152 but which encode identical or homologous polypeptide amino acid sequences.

A “primer” is a short polynucleotide, generally with a free 3' -OH group, that binds to a target potentially present in a sample of interest by hybridizing with the target, and thereafter promoting polymerization of a polynucleotide complementary to the target.

An “adaptor” is a short, partially-duplexed polynucleotide that has a blunt, double-stranded end and a protruding, single-stranded end. It can be ligated, through its double-stranded end, to the double-stranded end of another polynucleotide. This provides known sequences at the ends of thus modified polynucleotides. Often adaptors contain specific sequences for primer binding and/or restriction endonuclease digestion.

A “probe” when used in the context of polynucleotide manipulation refers to a polynucleotide which is provided as a reagent to detect a target potentially present in a sample of interest by hybridizing with the target. Usually, a probe will comprise a label or a means by which a label can be attached, either before or subsequent to the hybridization reaction. Suitable labels include, but are not limited to radioisotopes, fluorochromes, chemiluminescent compounds, dyes, and enzymes.

“Transformation” or “transfection” refers to the insertion of an exogenous polynucleotide into a host cell, irrespective of the method used for the insertion, for example, lipofection, transduction, infection or electroporation. The exogenous polynucleotide may be maintained as a non-integrated vector, for example, a plasmid, or alternatively, may be integrated into the host cell genome.

A polynucleotide is said to “encode” a polypeptide if, in its native state or when manipulated by methods well known to those skilled in the art, it can be transcribed and/or translated to produce the polypeptide, a homologous polypeptide or a fragment thereof. For purposes of this invention, and to avoid cumbersome referrals to complementary strands, the anti-sense (or complementary) strand of such a polynucleotide is also said to encode the

sequence; that is, a polynucleotide sequence that “encodes” a polypeptide includes both the conventional coding strand and the complementary sequence (or strand).

The terms “polypeptide”, “oligopeptide”, “peptide” and “protein” are used interchangeably herein to refer to polymers of amino acids of any length. The polymer may be linear or branched, it may comprise modified amino acids, it may be interrupted by non-amino acids, and it may be assembled into a complex of more than one polypeptide chain. The terms also encompass an amino acid polymer that has been modified naturally or by intervention; for example, disulfide bond formation, glycosylation, lipidation, acetylation, phosphorylation, or any other manipulation or modification, such as conjugation with a labeling component. Also included within the definition are, for example, polypeptides containing one or more analogs of an amino acid (including, for example, unnatural amino acids, etc.), as well as other modifications known in the art.

In the context of polypeptides, a “linear sequence” or a “sequence” is an order of amino acids in a polypeptide in an N-terminal to C-terminal direction in which residues that neighbor each other in the sequence are contiguous in the primary structure of the polypeptide. A “partial sequence” is a linear sequence of part of a polypeptide which is known to comprise additional residues in one or both directions.

“Recombinant,” as applied to a polynucleotide or gene, means that the polynucleotide is the product of various combinations of cloning, restriction and/or ligation steps, and other procedures that result in a construct that is distinct from a polynucleotide found in nature.

A “vector” is a self-replicating nucleic acid molecule that can be used to transfer an inserted nucleic acid molecule into and/or between host cells. The term includes vectors that function primarily for insertion of a nucleic acid molecule into a cell, vectors that function primarily for the amplification of nucleic acid, and expression vectors that function for transcription and/or translation of the DNA or RNA. Also included are vectors that provide more than one of the above functions.

“Expression vectors” are defined as polynucleotides which, when introduced into an appropriate host cell, can be transcribed into a mRNA capable of being translated into a polypeptide(s). An expression vector also comprises control elements operatively linked to the coding region to enable and/or facilitate expression of the polypeptide in the target cell. These can include transcriptional, translational, posttranscriptional, and posttranslational control elements, as are known in the art. An “expression system” usually connotes a suitable host cell comprised of an expression vector that can function to yield a desired expression product.

A "host cell" includes an individual cell or cell culture which can be or has been a recipient for vector(s) or for incorporation of nucleic acid molecules and/or proteins. Host cells include progeny of a single host cell, and the progeny may not necessarily be completely identical (in morphology or in genomic or total DNA complement) to the original parent cell  
5 due to natural, accidental, or deliberate mutation. A host cell includes cells transfected in vivo with a polynucleotide(s) of this invention.

A "cell line" or "cell culture" denotes eukaryotic cells, derived from higher, multicellular organisms, grown or maintained in vitro. It is understood that the descendants of a cell may not be completely identical (either morphologically, genotypically, or phenotypically) to the parent cell.  
10 Cells described as "uncultured" are obtained directly from a living organism, and are generally maintained for a limited amount of time away from the organism (i.e., not long enough or under conditions for the cells to undergo substantial replication).

As used herein, "expression" includes transcription and/or translation.

"Heterologous" means derived from (i.e., obtained from) a genotypically distinct entity  
15 from the rest of the entity to which it is being compared. For example, a polynucleotide may be placed by genetic engineering techniques into a plasmid or vector derived from a different source, thus becoming a heterologous polynucleotide. A promoter which is linked to a coding sequence with which it is not naturally linked is a heterologous promoter.

An "isolated" or "purified" polynucleotide, polypeptide or cell is one that is  
20 substantially free of the materials with which it is associated in nature. By substantially free is meant at least 50%, preferably at least 70%, more preferably at least 80%, even more preferably at least 90%, even more preferably at least 99%, and even more preferably at least 99.9% free of the materials with which it is associated in nature. As used herein, an "isolated" polynucleotide or polypeptide also refers to recombinant polynucleotides or polypeptides,  
25 which, by virtue of origin or manipulation: (1) are not associated with all or a portion of a polynucleotide or polypeptide with which they are associated in nature, (2) are linked to a polynucleotide or polypeptide other than that to which they are linked in nature, or (3) do not occur in nature, or (4) in the case of polypeptides, arise from expression of recombinant polynucleotides. Thus, for example, an isolated substance may be prepared by using a  
30 purification technique to enrich it from a source mixture. Enrichment can be measured on an absolute basis, such as weight per volume of solution, by specific activity or it can be measured in relation to a second, potentially interfering substance present in the source mixture. Increasing enrichments of the embodiments of this invention are increasingly more preferred.

Thus, for example, a 2-fold enrichment is preferred, 10-fold enrichment is more preferred, 100-fold enrichment is more preferred, 1000-fold enrichment is even more preferred. A substance can also be provided in an isolated state by processes such as chemical synthesis or recombinant expression.

5           A "reagent" polynucleotide, polypeptide, or antibody, is a substance provided for a reaction, the substance having some known and desirable function in the reaction. A reaction mixture may also contain a "target", such as a polynucleotide, antibody, polypeptide, or assembly of polypeptides that the reagent is capable of reacting with. For example, in some types of diagnostic tests, the presence and/or amount of the target in a sample is determined by  
10       adding a reagent, allowing the reagent and target to react, and measuring the amount of reaction product (if any).

          "Hybridization" refers to a reaction in which one or more polynucleotides react to form a complex that is stabilized via hydrogen bonding between the bases of the nucleotide residues. The hydrogen bonding may occur by Watson-Crick base pairing, Hoogsteen binding, or in any  
15       other sequence-specific manner. The complex may comprise two strands forming a duplex structure, three or more strands forming a multi-stranded complex, a single self-hybridizing strand, or any combination of these. A hybridization reaction may constitute a step in a more extensive process, such as the initiation of an amplification reaction such as PCR, or the enzymatic cleavage of a polynucleotide by a ribozyme.

20           When hybridization occurs in an antiparallel configuration between two single-stranded polynucleotides, those polynucleotides are described as "complementary". A double-stranded polynucleotide can be "complementary" to another polynucleotide if hybridization can occur between one of the strands of the first polynucleotide and the second. The degree to which one polynucleotide is complementary with another is quantifiable in terms of the proportion of bases in  
25       opposing strands that are expected to form hydrogen bonds with each other, according to generally accepted base-pairing rules of A-T, A-U and G-C.

          A "stable duplex" of polynucleotides, or a "stable complex" formed between any two or more components in a biochemical reaction, refers to a duplex or complex that is sufficiently long-lasting to persist between formation of the duplex or complex and subsequent detection,  
30       including any optional washing steps or other manipulation that may take place in the interim.

          A substance is said to be "selective" or "specific" if it reacts or associates more frequently, more rapidly, with greater duration and/or with greater affinity with a particular cell or substance than it does with alternative cells or substances. An odorant ligand "specifically

binds" to a target if it binds with greater affinity, avidity, more readily, and/or with greater duration than it binds to other substances.

As used herein, "naturally occurring," "native," or "wild type" refers to endogenous polynucleotides and the protein(s) expressed thereby. These terms include full-length and  
5 processed polynucleotides and polypeptides. Processing can occur in one or more steps, and these terms encompass all stages of processing. For instance, polypeptides having or lacking a signal sequence are encompassed by the invention. "Non-naturally occurring", "non-native", or "non-wild type" refer to all other polynucleotides and polypeptides.

A "polymerase chain reaction" ("PCR") is a reaction in which replicate copies are made  
10 of a target polynucleotide using one or more primers, and a catalyst of polymerization, such as a reverse transcriptase or a DNA polymerase, and particularly a thermally stable polymerase enzyme. Methods for PCR are taught in U.S. Patent Nos. 4,683,195 (Mullis) and 4,683,202 (Mullis et al.). All processes of producing replicate copies of the same polynucleotide, such as PCR or gene cloning, are collectively referred to herein as "amplification."

According to this invention, a "genomic DNA library" is a clone library which contains  
15 representative nucleotide sequences from the DNA of a given genome. It is constructed using various techniques that are well known in the art, for instance, by enzymatically or mechanically fragmenting the DNA from an organism, organ, or tissue of interest, linking the fragments to a suitable vector, and introducing the vector into appropriate cells so as to  
20 establish the genomic library. A genomic library contains both transcribed DNA fragments as well as nontranscribed DNA fragments.

In comparison, a "cDNA library" is a clone library that differs from a genomic library in that it contains only transcribed DNA sequences and no nontranscribed DNA sequences. It is established using techniques that are well known in the art, i.e., selection of mRNA (e.g. by  
25 polyA) making single stranded DNA from a population of cytoplasmic mRNA molecules using the enzyme RNA-dependent DNA polymerase (i.e., reverse transcriptase), converting the single-stranded DNA into double-stranded DNA, cloning the resultant molecules into a vector, and introducing the vector into appropriate cells so as to establish the cDNA library.

Alternately, a cDNA library need not be cloned into a vector and/or established in cells, but can  
30 be screened using PCR with gene-specific primers, as is well known in the art.

An "individual" is a vertebrate, preferably a mammal, more preferably a human.

#### General Techniques

The practice of the present invention will employ, unless otherwise indicated, conventional techniques of molecular biology (including recombinant techniques), microbiology, cell biology and biochemistry, which are within the skill of the art. Such techniques are explained fully in the literature, such as: "Molecular Cloning: A Laboratory Manual", second edition (Sambrook et al., 1989); "Oligonucleotide Synthesis" (M.J. Gait, ed., 1984); "Animal Cell Culture" (R.I. Freshney, ed., 1987); "Methods in Enzymology" (Academic Press, Inc.); "Gene Transfer Vectors for Mammalian Cells" (J.M. Miller & M.P. Calos, eds., 1987); "Current Protocols in Molecular Biology" (F.M. Ausubel et al., eds., 1987 and annual updates); "PCR: The Polymerase Chain Reaction", (Mullis et al., eds., 1994); "Current Protocols in Immunology" (J.E. Coligan et al., eds., 1991).

***Basis for identification and description of the polynucleotides and polypeptides***

The polynucleotide sequences were identified using oligonucleotide primers which were complementary to OR membrane-spanning regions. A number of different primers were used to elicit a variety of nucleotide sequences which encode polypeptides involved in olfactory sensation. The identification and isolation of nucleotide sequences which encode polypeptides involved in olfactory sensation and the polypeptides that they encode is vital for determining the response of receptors to odorant molecules, the elucidation of scent representations, profiles, or fingerprints, the reproduction of scent representations, profiles, or fingerprints and the editing of scent representations, profiles, or fingerprints.

***Polynucleotides encoding polypeptides involved in olfactory sensation***

The present invention provides isolated polynucleotides encoding polypeptides which are involved in olfactory sensation, vectors containing these polynucleotides, host cells containing these polynucleotides, and compositions comprising these polynucleotides. These polynucleotides are isolated and/or produced by chemical and/or recombinant methods, or a combination of these methods. The present invention includes polynucleotides isolated from the human olfactory epithelium which encode polypeptides which are involved in olfactory sensation, vectors containing these polynucleotides, host cells containing these polynucleotides, and compositions comprising these polynucleotides. Unless specifically stated otherwise,

“polynucleotides” shall include all embodiments of the polynucleotides of this invention. These polynucleotides are useful as probes, primers, in expression systems, and, in a preferred embodiment, in screening methods as described herein. In one embodiment the polynucleotides of the present invention can be isolated by creating a cDNA library using  
5 template RNA from human olfactory epithelium tissue. A detailed example is related in Example 1, below.

The advantage of constructing a cDNA library for isolation of the desired nucleotide sequences is that the likelihood of obtaining pseudogenes is greatly reduced compared to using a genomic DNA library for the same purpose. cDNA libraries contain only mRNA expressed  
10 in the tissue used for the construction of the library, in this case, the human olfactory epithelium. The preferred olfactory epithelium tissue should express only those nucleotide sequences which are relevant for olfactory function, thereby excluding nonfunctioning pseudogenes and also GPCRs which may be similar in primary structure (amino acid sequence) but are not encoded in OSNs. As the number of GPCRs utilized in human signal transduction  
15 pathways is extremely wide and varied, cDNA libraries constructed using olfactory tissue are preferable for isolating nucleotide sequences that encode polypeptides which are involved in olfactory sensation, inasmuch as genomic libraries can contain abundant nucleotide sequences which encode for a variety of GPCRs performing numerous functions, and are likely to contain pseudogenes.

The isolation of polynucleotide sequences which encode polypeptides involved in olfactory sensation is described in Example 1. Accordingly, this invention provides isolated polynucleotides that contain sequences encoding polypeptides or portions thereof which are involved in olfactory sensation, wherein the polypeptide is at least 10 amino acids in length, and wherein the polynucleotide sequences are depicted in SEQ ID NOS:1-73 and SEQ ID  
20 NOS:111-152.  
25

The invention includes modifications to said polynucleotides described above such as deletions, substitutions, additions, or changes in the nature of any nucleic acid moieties. A “modification” is any difference in nucleotide sequence as compared to a polynucleotide shown herein to encode a polypeptide involved in olfactory sensation, and/or any difference in  
30 the nucleic acid moieties of the polynucleotide(s), wherein such a modified polynucleotide encodes a polypeptide involved in olfactory sensation or a variant of said polypeptide that is useful in the practice of the invention. Such changes can be useful to facilitate cloning and modify expression of polynucleotides encoding polypeptides which are involved in olfactory

sensation. Such changes also can be useful for conferring desirable properties to the polynucleotide(s), such as stability. The definition of polynucleotide provided herein gives examples of these modifications. Hence, the invention also includes variants of the nucleic acid sequences disclosed herein, which include nucleic acid substitutions, additions, and/or deletions.

The invention also encompasses polynucleotides encoding polypeptides involved in olfactory sensation, including polynucleotides that are full-length, processed, coding, non-coding (including flanking region) or portions thereof, provided that these polynucleotides contain a region encoding at least a portion of a polypeptide involved in olfactory sensation.

(That is, the region encodes a functional fragment of an olfactory receptor or other polypeptide involved in olfactory sensation.) Also embodied are the mRNA, cDNA and genomic DNA sequences and fragments thereof that include a polynucleotide sequence comprising a coding sequence for a portion of a polypeptide involved in olfactory sensation.

Genes encoding human olfactory receptors, and optionally including related genomic sequences such as regulatory sequences, can be obtained using olfactory receptor cDNAs as hybridization probes. Under high stringency hybridization conditions, an OR cDNA will hybridize to its cognate OR gene. Use of lower stringency hybridization conditions allows the isolation of OR genes that are related to, but not identical with, the gene corresponding to a particular OR cDNA.

Conditions for hybridization are well-known to those of skill in the art and can be varied within relatively wide limits. Hybridization stringency refers to the degree to which hybridization conditions disfavor the formation of hybrids containing mismatched nucleotides, thereby promoting the formation of perfectly matched hybrids or hybrids containing fewer mismatches; with higher stringency correlated with a lower tolerance for mismatched hybrids. Factors that affect the stringency of hybridization include, but are not limited to, temperature, pH, ionic strength, and concentration of organic solvents such as formamide and dimethylsulfoxide. As is well known to those of skill in the art, hybridization stringency is increased by higher temperatures and/or lower ionic strengths. See, for example, Ausubel et al., supra; Sambrook et al., supra; M.A. Innis et al. (eds.) PCR Protocols, Academic Press, San Diego, 1990; B.D. Hames et al. (eds.) Nucleic Acid Hybridisation: A Practical Approach, IRL Press, Oxford, 1985; and van Ness et al., (1991) Nucleic Acids Res. 19:5143-5151. The degree of stringency can be adjusted not only during a hybridization reaction, but also in post-hybridization washes, as is known to those of skill in the art.

The invention also encompasses polynucleotides encoding polypeptides involved in olfactory sensation, functionally equivalent variants and derivatives of full-length polypeptides involved in olfactory sensation and functionally equivalent fragments. For instance, changes in a DNA sequence that do not change the encoded amino acid sequence, as well as those that result in conservative substitutions of amino acid residues, non-deleterious non-conservative substitutions, one or a few amino acid deletions or additions, and substitution of amino acid residues by amino acid analogs, will not significantly affect properties of the encoded polypeptide. Polypeptides homologous to the polypeptides encoded by the polynucleotides described herein can also be identified using algorithms and methods well-known to those of skill in the art, such as those described in Ausubel, "Current Protocols in Molecular Biology," Chapter 19; see also Altschul, S.F., Gish, W., Miller, W., Myers, E.W. & Lipman, D.J. (1990) "Basic local alignment search tool." J. Mol. Biol. 215:403-410; Gish, W. & States, D.J. (1993) "Identification of protein coding regions by database similarity search." Nature Genet. 3:266-272; Madden, T.L., Tatusov, R.L. & Zhang, J. (1996) "Applications of network BLAST server" Meth. Enzymol. 266:131-141; Altschul, S.F., Madden, T.L., Schäffer, A.A., Zhang, J., Zhang, Z., Miller, W. & Lipman, D.J. (1997) "Gapped BLAST and PSI-BLAST: a new generation of protein database search programs." Nucleic Acids Res. 25:3389-3402; and Zhang, J. & Madden, T.L. (1997) "PowerBLAST: A new network BLAST application for interactive or automated sequence analysis and annotation." Genome Res. 7:649-656. A preferred method of determining homology is the BLAST set of similarity search programs (Altschul, S.F., Gish, W., Miller, W., Myers, E.W. & Lipman, D.J. (1990) "Basic local alignment search tool." J. Mol. Biol. 215:403-410. Polypeptides which are 40% homologous, 50% homologous, 60% homologous, 70% homologous, 80% homologous, 90% homologous, 95% homologous, or 99% homologous to the polypeptides encoded by the polynucleotides described herein are encompassed by the invention.

Nucleotide substitutions that do not alter the amino acid residues encoded can be useful for optimizing gene expression in different systems. Suitable substitutions are known to those of skill in the art and are made, for instance, to reflect preferred codon usage in the particular expression systems. In another example, alternatively spliced polynucleotides can give rise to different functionally equivalent fragments or variants of an polypeptide involved in olfactory sensation. Alternatively processed polynucleotide sequence variants are defined as polynucleotide sequences corresponding to mRNAs that differ in sequence from one another but are derived from the same genomic region, for example, mRNAs that result from: 1) the

use of alternative promoters; 2) the use of alternative polyadenylation sites; and/or 3) the use of alternative splice sites.

***Preparation of polynucleotides involved in olfactory sensation***

5       The polynucleotides of this invention can be obtained using chemical synthesis, recombinant methods, or PCR.

Methods of chemical polynucleotide synthesis are well known in the art and need not be described in detail herein. One of skill in the art can use the sequences provided herein and a commercial DNA synthesizer to produce a desired DNA sequence.

10       For preparing polynucleotides which encode polypeptides involved in olfactory sensation using recombinant methods, a polynucleotide comprising a desired sequence can be inserted into a suitable vector, and the vector in turn can be introduced into a suitable host cell for replication and amplification. Polynucleotides may be inserted into host cells by any means known in the art. Cells are transformed by introducing an exogenous polynucleotide by direct  
15       uptake, endocytosis, transfection, F-mating, particle bombardment, liposome mediation, or electroporation. Once introduced, an exogenous polynucleotide can be maintained within the cell as a non-integrated vector (such as a plasmid) or integrated into the host cell genome. The polynucleotide encoding a polypeptide involved in olfactory sensation can be isolated from the host cell by methods well known within the art. See, e.g., Sambrook et al. (1989).

20       Alternatively, PCR allows amplification of DNA sequences. PCR technology is well known in the art and is described in U.S. Pat. Nos. 4,683,195, 4,800,159, 4,754,065 and 4,683,202, as well as *PCR: The Polymerase Chain Reaction*, Mullis et al. eds., Birkhausw Press, Boston (1994).

RNA can be obtained in a number of ways in an appropriate vector and the vector is  
25       transformed into a suitable host cell. When the inserted DNA is transcribed into RNA, the RNA can then be isolated using methods well known to those of skill in the art, as set forth in Sambrook et al., (1989), for example. RNA can also be obtained through in vitro reactions. For example, the polynucleotide, which encodes a polypeptide involved in olfactory sensation, can be inserted into a vector that contains appropriate transcription promoter sequences.

30       Commercially available RNA polymerases will specifically initiate transcription at their promoter sites and continue the transcription process through the adjoining DNA polynucleotides. Placing the polynucleotide sequences which encode polypeptides involved in

olfactory sensation between two such promoters allows the generation of sense or antisense strands of desired RNA.

5 ***Cloning and expression vectors comprising polynucleotide sequences encoding polypeptides involved in olfactory sensation***

The present invention further includes a variety of vectors containing polynucleotides encoding polypeptides involved in olfactory sensation. These vectors can be used for expression of recombinant polypeptides as well as a source of polynucleotides which encode polypeptides involved in olfactory sensation. Cloning vectors can be used to obtain replicate  
10 copies of the polynucleotides, which encode polypeptides involved in olfactory sensation, they contain, or as a means of storing the polynucleotides in a depository for future recovery. Expression vectors (and host cells containing these expression vectors) can be used to obtain polypeptides produced from the polynucleotides they contain. Suitable cloning and expression vectors include any known in the art, e.g., those for use in in vitro, bacterial, mammalian, yeast  
15 and insect expression systems. Specific vectors and suitable host cells are known in the art and need not be described in detail herein. For example, see Gacesa and Ramji, *Vectors*, John Wiley & Sons (1994).

Cloning and expression vectors typically contain a selectable marker (for example, a gene encoding a protein necessary for the survival or growth of a host cell transformed with the  
20 vector), although such a marker gene can be carried on another polynucleotide sequence co-introduced into the host cell. Only those host cells into which a selectable marker has been introduced will survive and/or grow under selective conditions. Typical selectable markers encode protein(s) that (a) confer resistance to antibiotics or other toxins substances, e.g., ampicillin, neomycin, methotrexate, etc.; (b) complement auxotrophic deficiencies; or (c)  
25 supply critical nutrients not available from complex media. The choice of the proper marker gene will depend on the host cell, and appropriate genes for different hosts are known in the art. Cloning and expression vectors also typically contain a replication system recognized by the host.

Suitable cloning vectors may be constructed according to standard techniques, or may  
30 be selected from a large number of cloning vectors available in the art. While the cloning vector selected may vary according to the host cell intended to be used, useful cloning vectors will generally have the ability to self-replicate in an appropriate host, may possess a single target for one or more particular restriction endonucleases, and/or may carry genes for a marker

that can be used in selecting clones containing the vector. Suitable examples include plasmids and bacterial viruses, e.g., pUC18, pUC19, m13mp18, m13mp19, pBR322, pMB9, ColE1, pCR1, RP4, phage DNAs, and shuttle vectors such as pSA3 and pAT28. These and many other cloning vectors are available from commercial vendors such as BioRad, Stratagene, and

5 Invitrogen.

Expression vectors generally are replicatable polynucleotide constructs that contain a polynucleotide encoding an polypeptide involved in olfactory sensation of interest. The polynucleotide, which encodes a polypeptide involved in olfactory sensation, encoding the polypeptide is operatively linked to suitable transcriptional controlling elements, such as

10 promoters, enhancers and terminators. For expression (i.e., translation), one or more translational controlling elements are also usually required, such as ribosome binding sites, translation initiation sites, and stop codons. These controlling elements (transcriptional and translational) may be derived from the gene encoding polypeptides involved in olfactory sensation, or they may be heterologous (i.e., derived from other genes and/or other organisms).

15 A polynucleotide sequence encoding a signal peptide can also be included to allow a polypeptide involved in olfactory sensation to cross and/or lodge in cell membranes or be secreted from the cell. A number of expression vectors suitable for expression in eukaryotic cells including yeast, insect, avian, plant and mammalian cells are known in the art. Common vectors, such as YEp13 and the Sikorski series pRS303-306, 313-316, 423-426 can also be

20 used. Vectors pDBV52 and pDBV53 are suitable for expression. Another example of an expression vector/host cell system is the baculovirus (e.g., nuclear polyhedrosis virus)/insect cell (e.g., sf9 cells) system.

Human olfactory receptor polypeptides are expressed from olfactory receptor cDNA by methods well-known to those of skill in the art. A cDNA or portion thereof is inserted in an

25 expression vector using standard molecular cloning techniques. Coupled in vitro transcription and translation of such a vector results in expression of the OR protein encoded by the cDNA. In vivo expression of a OR polypeptide is accomplished by inserting an OR cDNA into a eucaryotic or procaryotic expression vector, of which many are known in the art, to generate an OR expression construct. The OR expression construct is introduced into an appropriate

30 host cell in which the OR sequences are expressed (by transcription and translation) and optionally secreted, and the expressed OR polypeptide is obtained from the cell growth medium and/or from cell lysates.

A number of expression vectors are known in the art. Prokaryotic expression vectors include, but are not limited to, T7 RNA polymerase/T7 promoter-based vectors, bacteriophage  $\lambda$ -based vectors and various types of fusion vectors. Fusion vectors include, but are not limited to, lacZ and trpE fusion vectors, maltose binding protein fusion vectors, glutathione-S-transferase fusion vectors, and thioredoxin fusion vectors. Baculovirus-based vectors are used for expression in insect cell systems. Expression in mammalian cells (such as HEK, COS and CHO cells) utilizes vectors containing a mammalian origin of replication (such as, for example, a SV40 origin), an efficient promoter (optionally including one or more enhancer sequences), mRNA processing signals (e.g., splice sites and polyadenylation sites), one or more selectable markers, and optionally a prokaryotic replicon to allow propagation and manipulation of the construct in prokaryotic cells. Alternatively, expression in mammalian cells is achieved through the use of any of a number of mammalian viral vectors including, but not limited to, retroviruses, lentiviruses, Semliki Forest viruses, vaccinia viruses, adenoviruses and adeno-associated viruses.

Vectors containing the polynucleotides of interest can be introduced into the host cell by any of a number of appropriate means, including electroporation, direct injection, transfection employing calcium chloride, rubidium chloride, calcium phosphate, DEAE-dextran, or other substances; microprojectile bombardment; lipofection; and infection (where the vector is an infectious agent, such as a virus). The choice of means of introducing vectors or polynucleotides encoding polypeptides involved in olfactory sensation will often depend on the host cell, as will be well known to those of skill in the art.

***Host cells transformed with polynucleotides encoding polypeptides involved in olfactory sensation***

Another embodiment of this invention are host cells transformed with (i.e., comprising) polynucleotides encoding polypeptides involved in olfactory sensation, and/or vectors having polynucleotide(s) sequences encoding polypeptides involved in olfactory sensation, as described above. Both prokaryotic and eukaryotic host cells may be used. Prokaryotic hosts include bacterial cells, for example *E. coli*, *B. subtilis*, and mycobacteria. Among eukaryotic hosts are yeast, insect, avian, plant and mammalian cells. Host systems are known in the art and need not be described in detail herein.

The host cells of this invention can be used, *inter alia*, as repositories of polynucleotides encoding polypeptides involved in olfactory sensation, and/or vehicles for

production of polynucleotides encoding polypeptides involved in olfactory sensation, and/or polypeptides involved in olfactory sensation. They may also be used as vehicles for *in vivo* delivery of polypeptides involved in olfactory sensation.

5 ***Uses for and methods using polynucleotides encoding polypeptides involved in olfactory sensation***

To determine whether a vector containing polynucleotides is capable of expressing in eukaryotic cells, cells such as, for example, COS-7 (primate origin), CHO (rodent origin), HEK-293 (human origin), or HeLa (human origin) cells can be transfected with the vector.

- 10 Expression of a polypeptide(s) encoded by the vector is then determined by, for example, RIA, ELISA, immunofluorescence of fixed cells, or western blotting of cell lysate using an antibody as a probe. Antibodies can be obtained using, as immunogen, peptide sequences synthesized from the protein sequences encoded by the known polynucleotide sequence. Polypeptides can be purified by, for example, phase partitioning, affinity methods, gel filtration and ion
- 15 exchange, as well as additional methods known by those skilled in the art. Further characterization of the expressed polypeptide can be achieved by purification of the polypeptide using techniques known in the art.

***Polypeptides involved in olfactory sensation***

- 20 The present invention encompasses polypeptides involved in olfactory sensation. Expression of said polypeptides is localized in the olfactory neurons located in the olfactory epithelium, as described earlier. The polypeptides may comprise any novel sequence encoded by a nucleotide sequence as depicted in SEQ ID NO:1 through SEQ ID NO:73 and SEQ ID NO:111 through SEQ ID NO:152.

- 25 The invention includes modifications to polypeptides involved in olfactory sensation including functionally equivalent fragments of the polypeptides involved in olfactory sensation which do not significantly affect their properties and variants which may have enhanced or decreased activity. Collectively, these modifications may be termed "analogs" of or a fragment of polypeptides involved in olfactory sensation. Modification of polypeptides is routine practice in
- 30 the art and need not be described in detail herein. Examples of modified polypeptides include polypeptides with conservative substitutions of amino acid residues, one or more deletions or additions of amino acids which do not significantly deleteriously change the functional activity, or use of chemical analogs. Amino acid residues which can be conservatively substituted for

one another include but are not limited to: glycine/alanine; valine/isoleucine/leucine; asparagine/glutamine; aspartic acid/glutamic acid; serine/threonine; lysine/arginine; and phenylalanine/tyrosine. Such conservative substitutions are known in the art, and preferably, the amino acid substitutions would be such that the substituted amino acid would possess  
5 similar chemical properties as that of the original amino acid. These polypeptides also include glycosylated and non-glycosylated polypeptides, as well as polypeptides with other post-translational modifications, such as, for example, glycosylation with different sugars, acetylation, and phosphorylation. Amino acid modifications can range from changing or modifying one or more amino acids to complete redesign of a region. Other methods of  
10 modification include using coupling techniques known in the art, including, but not limited to, enzymatic means, oxidative substitution and chelation. Modified polypeptides involved in olfactory sensation are made using established procedures in the art.

The invention also encompasses fusion proteins comprising one or more polypeptides involved in olfactory sensation. For purposes of this invention, a fusion protein contains one  
15 or more polypeptides involved in olfactory sensation and another amino acid sequence to which it is not attached in the native molecule, for example, a heterologous sequence or a homologous sequence from another region. Useful heterologous sequences include, but are not limited to, sequences that provide for secretion from a host cell, intracellular trafficking, and stability/degradation. Other useful heterologous sequences are ones which facilitate  
20 purification. Examples of such sequences are known in the art and include those encoding epitopes such as Myc, HA (derived from influenza virus hemagglutinin), His-6, or FLAG. Other heterologous sequences that facilitate purification are derived from proteins such as glutathione S-transferase (GST), maltose-binding protein (MBP), or the Fc portion of immunoglobulin.

#### *Preparation of polypeptides involved in olfactory sensation*

The polypeptides of this invention can be made by procedures known in the art. The polypeptides can be produced by recombinant methods (i.e., single or fusion polypeptides) or by chemical synthesis. Polypeptides, especially shorter polypeptides up to about 50 amino  
30 acids, are conveniently made by chemical synthesis. Methods of chemical synthesis are known in the art and are commercially available. For example, a polypeptide can be produced by an automated polypeptide synthesizer employing the solid phase method. Polypeptides can also be made by chemical synthesis using techniques known in the art.

Polypeptides can also be made by expression systems, using recombinant methods. The availability of polynucleotides encoding polypeptides permits the construction of expression vectors encoding intact (i.e., native) polypeptide, functional equivalents and functional fragments thereof, modified forms or recombinant forms. A polynucleotide  
5 encoding the desired polypeptide, or a fusion protein, can be ligated into an expression vector suitable for any convenient host. Both eukaryotic and prokaryotic host systems can be used. The polypeptide is then isolated from lysed cells or from the culture medium and purified to the extent needed for its intended use. Purification or isolation of the polypeptides expressed in  
10 host systems can be accomplished by any method known in the art (e.g. partitioning exclusion, ion exchange chromatograph, gel filtration, etc.). Other controlling transcription or translation segments, such as signal sequences that direct the polypeptide to a specific cell compartment (i.e., for secretion), can also be used. Examples of prokaryotic host cells are known in the art and include, for example, *E. coli* and *B. subtilis*. Examples of eukaryotic host cells are known in the art and include yeast, avian, insect, plant, and animal cells such as COS7, HeLa, CHO,  
15 HEK-293 and other mammalian cells.

Alternatively, in vitro expression systems may also be used to produce polypeptides involved in olfactory sensation. A plasmid containing a polynucleotide encoding polypeptides involved in olfactory sensation, under the control of an appropriate promoter, can be transcribed and the resultant RNA translated in vitro through the use of commercially  
20 available reagents. Such methods can be used to produce relatively pure samples of the polypeptide and are known in the art.

Preferably, the polypeptides are at least partially purified from other cellular constituents. In one embodiment, the polypeptides are at least 70%, more preferably at least 80%, even more preferably at least 90% or most preferably at least 95% pure. In this context,  
25 purity can be calculated as a weight percent of the total protein content of the preparation. More highly purified polypeptides may also be obtained and are encompassed by the present invention. Methods of protein purification are known in the art and are not described in detail herein. For membrane-bound proteins, the lipid content of the preparation, which is required to maintain the structure and function of the protein, is excluded from the purity calculation. That  
30 is, if a preparation weighing 10 mg has 5 mg lipid, 4 mg of desired protein, and 1 mg of undesired proteins, the purity is calculated as 80% (desired protein content divided by total protein content). Preparations of biological or synthetic molecules suitable for maintaining structure and function of membrane proteins are described in Etemadi AH (1985) *Adv Lipid*

- Res 1985;21:281-428; Villalobo A (1990) *Biochimica Et Biophysica Acta*, 1017(1):1-48; Montal M (1987) *Journal Of Membrane Biology* 98(2): 101-115; Scotto AW et al. (1987) *Biochemistry* 26(3): 833-839; Jain MK and Zakim D (1987) *Biochimica Et Biophysica Acta* 906(1): 33-68; Czerski L and Sanders CR (2000) *Anal Biochem* 284(2):327-33 (lipid-  
 5 detergent mixtures or "bicelles"); Hrafnisdottir S and Menon AK (2000) *J Bacteriol* 182(15):4198-206 (proteoliposomes); Puu G et al. (2000) *Biosens Bioelectron* 15(1-2):31-41 (protein-lipid preparations on solid surfaces); Schafmeister CE et al. (1993) *Science* 262(5134):734-8 ("peptitergents").

#### 10 *Uses of polypeptides involved in olfactory sensation*

- The polypeptides of this invention have a variety of uses. They can be used, for example, to screen odorant ligands in order to determine the scent representations, scent profiles or scent fingerprints of particular odorant molecules and further to characterize the effect of functional groups and chemical characteristics on perceived smell. Methods for screening odorant  
 15 compounds using odorant receptors in neuronal cells are known in the art (Firestein et al., WO 98/50081; Duchamp-Viret et al., *Science* 1999, 284 2171-2174; Sato et al., *J. Neurophys.* 1994 72 2980-2989; Malnic et al, *Cell* 1999 96 713-723; Zhao et al., *Science* 1998 279, 237-242). There are also methods which can be employed to screen odorant compounds which do not require neuronal cells and are known in the art (Kauvar et al., U. S. Pat. No. 5,798,275; Kiefer et al.,  
 20 *Biochemistry* 1996 35 16077-16084; Krautwurst et al., *Cell* 1998 95 917-926),

- Analysis of the scent can be performed in a number of ways. Various embodiments of the scent analysis system are presented. Examples of how these embodiments might operate are also presented, although it should be emphasized that the invention is not limited by any  
 25 particular theory of olfactory perception or scent analysis.

#### Olfactory Space

- The sensory subsystem comprises a series of olfactory receptors, which selectively bind with the chemical component(s) making up the scent. The scent can be characterized in terms  
 30 of which of the approximately 1,000 olfactory receptors the scent component(s) bind to, and the strength of the interaction of the component(s) with those receptors. Each olfactory receptor can be considered an orthogonal basis vector; the entire set of olfactory receptors can be considered a set of basis vectors spanning "olfactory space." This is analogous to vectors

pointing along the x, y, and z directions in three-dimensional space, where any point in space can be represented by a combination of the x, y, and z basis vectors (with each of the x, y, and z vectors multiplied by the appropriate scalar quantity). The intensity of interaction of a scent with an olfactory receptor determines the magnitude of the vector along that particular "axis" in olfactory space. Thus, every scent can be uniquely described by a vector representation in olfactory space.

A representation of a scent in such a manner that the scent can later be re-created is defined as scent profiling. The aforementioned vector representation is one example of a scent profile.

#### Primary Scents

For the purposes of this invention, a receptor primary scent component is defined as a chemical that interacts with one and only one scent receptor. A receptor complex scent component is defined as a chemical that interacts with more than one scent receptor; the receptor complex scent component can interact with each of the scent receptors to different degrees, to equal degrees, or can interact with some receptors to the same degree and others to different degrees.

Olfactory receptors are proteins which fall in the class of seven transmembrane domain G protein-coupled receptors, and are found in olfactory neurons *in vivo*. Binding of an odorant to an olfactory receptor causes second messenger systems to become activated or inhibited in the cell, leading to increased cellular production of second messenger molecules such as cyclic AMP. These second messenger systems in turn lead to the depolarization of the olfactory neuron, or other changes in the state of the neuron, which provides the signal to the nervous system that the odorant has been detected.

With a complete set of receptor primary scent components, any scent can be re-created with the knowledge to the degree to which it interacts with each olfactory receptor. The instant invention encompasses such complete sets of receptor primary scent components. Other embodiments of the invention encompass sets of receptor primary scent component chemicals which provide the ability to re-create a particularly desired subset of scents, but not necessarily all possible scents. Still more embodiments encompass sets of receptor primary scent component chemicals which provide the ability to approximate particular scents, while not necessarily exactly re-creating the interaction profile of the particular scents.

In some cases, a receptor complex scent will be an acceptable approximation to a receptor primary scent. That is, if a given receptor complex scent interacts with a first scent receptor strongly, but interacts with other scent receptors less strongly, it can be considered an approximation to a receptor primary scent component for the first receptor. Such a receptor complex scent component is described by the term receptor quasi-primary scent component. One embodiment of the invention encompasses sets of receptor quasi-primary scent component chemicals suitable for re-creating all scents. Another embodiment of the invention encompasses sets of receptor quasi-primary scent component chemicals suitable for re-creating a particularly desired subset of scents, but not necessarily all possible scents. Yet another embodiment encompasses sets of receptor quasi-primary scent component chemicals which provide the ability to approximate particular scents, while not necessarily exactly re-creating the interaction profile of the particular scents.

The identification of receptor primary or quasi-primary scent component chemicals provides the most conceptually straightforward method of re-creating scents. However, another embodiment of the invention encompasses the use of receptor complex scent components for re-creating scents. An example of such an embodiment would be re-creation of a scent that activates olfactory receptors designated OR1, OR2, OR3, OR4, OR5 and OR6 (for the sake of illustration, it is assumed that the olfactory receptors are stimulated to an equal extent). If one is in possession of two receptor complex scent component chemicals (RCSC's) where RCSC1 activates OR1 and OR5, and RCSC2 activates OR2, OR3, OR4, and OR6, then one can reproduce the original scent by mixing RCSC1 and RCSC2 to re-create the original olfactory receptor activation profile. In practice, the profiles of various receptor complex scent components will be much more complicated than the forgoing example, and components which inhibit olfactory activation as well as stimulate activation can be included in the sets. However, once receptor activation profiles of sufficient receptor complex scent components are known, computer algorithms can be utilized to create the appropriate combination of receptor complex scent components. Using vector representations of the olfactory receptor activation profiles for a set of receptor complex scent components, one can create linear combinations of such receptor complex scent components in order to represent a particular scent. For the example given above, such a vector representation would look like (1, 0, 0, 0, 1, 0) for the first receptor complex scent component and (0, 1, 1, 1, 0, 1) for the second receptor

complex scent component, while the vector representation of the scent to be re-created is (1, 1, 1, 1, 1, 1). If  $x_1$  and  $x_2$  are the relative proportions of the first receptor complex scent component and the second receptor complex scent component, respectively, to be combined to re-create the scent, then the problem can be represented as a series of linear equations:

$$\begin{array}{rclcl} 1x_1 & + & 0x_2 & = & 1 \\ 0x_1 & + & 1x_2 & = & 1 \\ 0x_1 & + & 1x_2 & = & 1 \\ 0x_1 & + & 1x_2 & = & 1 \\ 1x_1 & + & 0x_2 & = & 1 \\ 0x_1 & + & 1x_2 & = & 1 \end{array}$$

and the solutions for  $x_1$  and  $x_2$  are  $x_1 = 1$ ,  $x_2 = 1$ . Solutions to systems of linear equations have been thoroughly studied and many algorithms are available for implementation on computers, including algorithms which evaluate the accuracy of an approximate solution when an exact solution cannot be determined. (See, e.g., Dettman, J.W., *Introduction to Linear Algebra and Differential Equations*, Dover Pubs., 1986; Press W.H. et al., *Numerical Recipes in C: The Art of Scientific Computing*, 2nd ed., Cambridge University Press, 1993; Vetterling (ed.) *Numerical Recipes in C: The Art of Scientific Computing/Disk V 2.02*, Cambridge University Press, 1997.) These methods can also be used to determine whether a set of receptor complex scent components is suitable for re-creating a given scent. For example, if the scent to be recreated is represented by the vector (1, 1, 1, 1, 1, 2), there will be no solution to the resulting system of linear equations using the two receptor complex scent components in the illustration above. In this instance, one or more additional receptor scent components will need to be identified in order to be able to re-create the scent in terms of the receptor primary scent components. Alternatively, the scent represented by (1, 1, 1, 1, 1, 1) may be an acceptable approximation to the scent represented by (1, 1, 1, 1, 1, 2). Integers are used in this example for clarity, but the vectors can contain any real number representing a measured intensity; for example, (1.1, 0.997, 1.08, 1.2, 0.88888..., 2.00001) may be an acceptable approximation to the scent represented by (1, 1, 1, 1, 1, 2).

It will be readily appreciated that the choice of a complete set of receptor primary, quasi-primary, or complex scent component chemicals (capable of generating all scents) versus a partial set of receptor primary, quasi-primary, or complex scent component chemicals (capable of generating, exactly or approximately, a subset of scents) depends on the application for which scent re-creation is desired.

A special category of receptor scent components are chemicals which bind to a receptor without activating it. If these non-activating chemicals prevent chemicals which do activate the receptors from binding, the non-activating chemicals act to "turn off" those receptors. These non-activating chemicals, or receptor binding antagonists, are particularly useful in editing scents, as they can be added to a scent to attenuate or eliminate particular aspects of the scent. In the vector example above, if a particular receptor antagonist blocks OR2, OR3, and OR4, but not OR1, OR5 or OR6, then it can be represented in vector format as (0, -1, -1, -1, 0, 0). In the reproduction of (1, 1, 1, 1, 1, 2) from the vectors (1, 0, 0, 0, 1, 0) and (0, 1, 1, 1, 0, 1), the following combination can be used:

$1 \times (1, 0, 0, 0, 1, 0) + 2 \times (0, 1, 1, 1, 0, 1) + 1 \times (0, -1, -1, -1, 0, 0)$  to yield the vector (1, 1, 1, 1, 1, 2). In some instances, enough of a particular receptor binding antagonist is used to eliminate any possibility of activation by a receptor scent component, in which case the vector entry for the receptor(s) which are blocked by that antagonist contains 0 in the vector position corresponding to that receptor(s).

Perceptive primary scents are defined as scents that give a single scent perception, for example, the scent "lemon" as perceived by a human. A perceptive primary scent can be composed of one or more receptor primary scent components, one or more receptor complex scent components, or a mixture of one or more receptor primary scent components and one or more receptor complex scent components. Since perceptive primary scents are to some extent subjective, identification of perceptive primary scents can be performed by using a panel of subjects who evaluate and describe scents. A perceptive complex scent is made up of more than one perceptive primary scent. The boundaries between a perceptive primary scent and a perceptive complex scent are also to some extent subjective; for example, one person may describe a scent as "pizza," while another person may describe the same scent as "sausage, cheese and tomato sauce." That is, one person may perceive a scent as a perceptive primary scent for "pizza," while another person may perceive the same scent as a perceptive complex scent made up of several individual perceptive primary scents. In order to standardize perceptive scents, a panel of five or more, preferably ten or more, more preferably fifty or

more, still more preferably one hundred or more, people can be surveyed to label various perceptive scents. When a plurality, preferably a majority, more preferably 66 2/3 % or greater, still more preferably 95 % or greater, even more preferably 99% or greater, of the panel identifies a scent as the same scent (e.g., of a panel of 100 people, 95 describe a scent as  
5 "pizza," while the other 5 describe the scent otherwise), the scent can be labeled as a perceptive scent (the perceptive scent can be primary or complex, depending on whether the panel identifies it as a single scent or a mixture of scents).

In fields where existing classification schemes already exist, the perceptive primary and complex scents can be indexed according to those schemes. For example, the SFP (Société  
10 Française des Parfumeurs) has drawn up a classification system based on 5 main groups, subdivided into classes. Such a classification can be used for selecting perceptive primary scents and used as guides for combining the scents.

#### Selecting Chemicals for Scent Re-creation

15 A scent which has been represented as a set of basis vectors in olfactory space can in principle be re-created simply by mixing the receptor primary scent components, receptor quasi-primary scent components, or receptor complex scent components needed to interact the olfactory receptors in the same pattern as the original scent. Such an approach requires 1) a method to generate a representation of the original scent in olfactory space, and 2) suitable  
20 receptor primary scent component chemicals which can be mixed in the appropriate manner.

Identification of receptor scent components can be performed by various methods. One such method assays the interaction of candidate components with each olfactory receptor. The receptors can be expressed *in vitro* and assays can be set up to monitor the interaction of various candidate components with each individual receptor. Chemicals which interact with  
25 one and only one olfactory receptor are receptor primary scent components, while chemicals which interact with more than one olfactory receptor are receptor complex scent components (and can possibly be receptor quasi-primary scent components, depending on the interaction profile it displays with the olfactory receptors). Such an approach can use methods known in the art, for example those of Breer *et al.*, Ann. N. Y. Acad. Sci. (1998) 855:175-81 or Malnic *et al.*,  
30 *Cell* (1999) 96(5):713-23. Breer *et al.* expressed olfactory receptors in Sf9 cells and evaluated the second-messenger response to various odorants. Malnic *et al.* isolated olfactory neurons from mice and utilized calcium imaging to study the response of the neurons to different odorants, while using RT-PCR to determine which olfactory receptor was expressed

in the neuron under study. U.S. Patent No. 5,798,275 describes a method for evaluating interaction of compounds with members of a reference panel of proteins. WO 98/50081 discloses methods for detecting particular odorant ligand specificity for particular odorant receptors in nasal epithelium tissue of mammals such as rats and mice.

5

Selection of Receptor Primary Scents by *in silico* Methods

An alternative method utilizes *in silico* screening techniques--that is, computer simulation methods--for selecting candidate components. Protein-ligand screening can be used to select compounds which bind to particular receptors in order to identify receptor primary  
10 scent components. Examples of such programs are DOCK, AutoDock, GOLD, FlexX, LUDI, GROWMOL, and HOOK. (See Wang, J., Kollman, P.A., Kuntz I.D., "Flexible ligand docking: a multistep strategy approach," *Proteins* 36(1):1-19 (1999) and references therein.) These programs function by taking a protein structure and either matching compounds of known structure to the protein structure to determine the protein-ligand interaction, or by  
15 "growing" a molecule in the active site or binding site of a protein to determine what molecule will best interact with the protein.

Olfactory receptor proteins are membrane proteins, and experimental determination of the three-dimensional structures of membrane proteins has lagged the corresponding structural determination of water-soluble proteins for various reasons. However, alternative methods for  
20 constructing the three-dimensional structures of proteins are available. The primary (amino acid) sequences of many olfactory receptors are known. This information can be used to model a three-dimensional structure of a receptor protein using various algorithms and computer programs known in the art. The resulting model structure can then be used as the basis for evaluating interaction of candidate components with the receptor.

25 Alternatively, given known chemical structures which give rise to a particular odor, analysis of the structures can indicate the particular portion of the chemical structure which is responsible for the odor. This is analogous to "pharmacore analysis" used in medicinal chemistry to determine the important portion of drugs.

Methods for developing compounds which bind to receptors and other proteins of  
30 known structure, and determining interactions between ligands and receptors, are described in various references. The DOCK program evaluates the fit of a ligand into a protein molecule of known structure (see Gschwend, D.A., Good, A.C. and Kuntz, I.D., "Molecular Docking Towards Drug Discovery", *J. Mol. Recognition* 9, 175-86 (1996); Kuntz, I.D., Meng, E.C., and

B.K. Shoichet, "Structure-Based Strategies For Drug Design and Discovery", *Acc. Chem. Res.* 27, 117-123 (1994); and Kuntz, I.D., "Structure-based strategies for drug design and discovery", *Science* 257, 1078-1082 (1992); see also

<http://www.cmp Pharm.ucsf.edu/kuntz/dock.html>). Using a known (or modeled) structure of an

5 olfactory receptor, DOCK can be used to screen for compounds which bind to the receptor.

The program AMBER (see Cornell, WD, Cieplak P, Bayly CI, Gould IR, Merz KM Jr, Ferguson DM, Spellmeyer DC, Fox T, Caldwell JW and Kollman PA. "A second generation force field for the simulation of proteins and nucleic acids," *Journal of the American Chemical Society* 117, 5179-5197 (1995); Computer Simulation of Biomolecular Systems, A. Wilkinson,

10 P. Weiner, W. Van Gunsteren, eds. Volume 3, p. 83-96, P. Kollman, R. Dixon, W. Cornell, T. Fox, C. Chipot and A. Pohorille; Bayly CI, Cieplak P, Cornell WD and Kollman PA. "A well-behaved electrostatic potential based method using charge restraints for deriving atomic charges - the RESP model," *Journal of Physical Chemistry* 97(40), 10269-10280 (1993);

Cornell WD, Cieplak P, Bayly CI and Kollman PA. "Application of RESP charges to calculate  
15 conformational energies, hydrogen bond energies, and free energies of solvation," *Journal of the American Chemical Society* 115(21), 9620-9631 (1993); see also

<http://www.amber.ucsf.edu/amber/amber.html>) can be used to calculate more precise interaction energies between candidate ligands. Other examples of such methods are described in, for example, U.S. Patent No. 5,866,343, directed to determining the energetically favorable  
20 binding site between two molecules; U.S. Patent No. 5,854,992, a system and method for structure-based drug design which takes into account binding free energy as it "grows" candidate molecules into a receptor binding site; and U.S. Patent No. 5,495,423, which describes a method for ligand design (principally applicable to peptidic ligands).

The foregoing methods typically depend on a known three-dimensional structure for the  
25 receptor. When such a structure cannot or has not been determined experimentally, a structure can be modeled using computer algorithms. Blundell TL, Sibanda BL, Sternberg MJ, Thornton JM, "Knowledge-based prediction of protein structures and the design of novel molecules," *Nature* 326(6111):347-52 (1987); Shortle D, "Structure prediction: The state of the art," *Curr Biol* 9(6):R205-9 (1999), Morea V, Leplae R, Tramontano A, "Protein structure prediction and  
30 design," *Biotechnol Annu Rev* 4:177-214 (1998) and Onuchic JN, Luthey-Schulten Z, Wolynes PG, "Theory of protein folding: the energy landscape perspective," *Annu Rev Phys Chem* 48:545-600 (1997) address various methods of predicting protein structure from sequence data.

Various implementations for predicting protein structure from amino acid sequences are discussed in U.S. Patent Nos. 5,878,373 and 5,884,230.

If the structure, or even the identity, of the targeted receptor cannot be determined, alternative computational techniques can be used to generate information regarding possible  
5 ligands which will interact with the receptor. Quantitative structure-activity relationships (QSAR; see Green, S.M. and Marshall, G.R., "3-D QSAR: A current perspective," Trends Pharmacol Sci 16:285 (1995); and 3D QSAR in Drug Design: Theory, Methods and Applications, Kubinyi, H. Ed.; Escom, Leiden.), including QSAR refinements such as comparative molecular field analysis (ComFA) (Cramer, R. D. et al. "Comparative Molecular  
10 Field Analysis ComFA 1. Effect Of Shape On Binding Of Steroids To Carrier Proteins," *J. Am. Chem. Soc.* 110: 5959 (1988)); and pharmacophore mapping (Martin YC, Bures MG, Danaher EA, DeLazzer J, Lico I, Pavlik PA, "A fast new approach to pharmacophore mapping and its application to dopaminergic and benzodiazepine agonists," *J Comput Aided Mol Des* 7(1):83-102 (1993)) have been used to design pharmacophores that can interact with the receptor. U.S.  
15 Patent No. 5,699,268 provides a method for producing computer-simulated receptors which functionally mimic biological receptors; the simulated receptors are essentially abstractions of structurally useful information from compounds which are known to interact with a receptor. U.S. Patent No. 5,901,069 describes a method of automatically refining a set of chemicals using structure/activity data. U.S. Patent No. 5,862,514 describes a method of simulating  
20 synthesis of compounds of desired biological activity and evaluating their activity via further simulations.

Application of structure-function relationships to classification of odors has been described by Chastrette M., Rallet E. "Structure-minty odour relationships: Suggestion of an interaction pattern," *Flavour and Fragrance Journal*, 13(1):5-18 (1998); Chastrette M., De  
25 Saint Laumer J.Y., Peyraud J.F., "Adapting the structure of a neural network to extract chemical information. Application to structure-odour relationships," *SAR QSAR Environ Res* 1 (2-3):221-231 (1993), Chastrette M., "Trends in structure-odor relationships," *SAR QSAR Environ Res* 6(3-4):215-254 (1997) and Jain et al., "A shape-based machine learning tool for drug design," *J Comput Aided Mol Des* 8(6):635-652 (1994). These methods can be useful in  
30 determining the "chemical distance" between odors. For example, isoamyl acetate is typically experienced as a banana-like odor, while octyl acetate is typically experienced as an orange-like odor, which gives a measure of how the chain length of the alkoxy portion of the ester influences perception.

Olfactory Receptors and Libraries of Olfactory Receptors

The olfactory receptors of the invention can be used to analyze and describe the interaction of scent odorant molecules with each receptor. This can be done individually, receptor-by-receptor and odorant molecule by odorant molecule. However, a combinatorial approach provides a much more powerful method of analyzing and describing the interaction of scent odorant molecules with olfactory receptors.

In one embodiment, the invention comprises libraries of olfactory receptors. These libraries are used to screen compositions for interaction with receptors. A composition can be a single compound (essentially a pure chemical), or a mixture of two or more compounds or chemicals. The compositions can be presented to the library in vapor form, or in solutions, typically aqueous solutions.

The method for determining the binding pattern of a composition with olfactory receptors comprises the steps of: exposing the composition to an olfactory receptor library; and determining whether the composition binds to each olfactory receptor of the library, thereby determining the overall binding pattern of the composition. While it is desirable to determine whether the composition binds to each of the olfactory receptors, in certain cases, determining the binding pattern to a subset of the receptors is suitable. Such a situation can arise if the complete pattern is not needed, or if the experiment cannot determine binding to a receptor for a particular reason. (Determining the binding to a subset is equivalent to reducing the olfactory receptor library to that subset of receptors.)

Typically, the libraries are prepared as arrays, where the position of each olfactory receptor is known on the array. The arrays can take the form of multiwell plates, solid substrates such as chips or wafers, or any other form allowing identification of the receptor location. The arrays can be prepared in order to simply assess binding, or can be prepared in order to assess degree of activation as described above, using, for example, the technique of Malnic *et al.*, *Cell* 1999 96, 713-723. Alternatively, an *in silico* array of structures can be prepared, using the known primary structure of the receptors and the modeling techniques described above.

The libraries contain at least two olfactory receptors. In increasing order of preference, the libraries contain at least 5, 10, 20, 30, 40, 50, 75, 100, 200, 300, 400, 500, 600, 700, 800, 900, 1000, 1200, 1400, 1500, 1600, 1800, or 2000 olfactory receptors. The

receptors are presented as ordered arrays. For example, a 96-well plate can contain 96 receptor preparations. Upon exposure to a composition, the plate can be scanned, and the response of each receptor in each well can be evaluated. This leads to a 96-element vector description of the composition in terms of those 96 olfactory receptors.

5 In one embodiment, binding to the olfactory receptors is assessed. In another embodiment, the approximate binding constant of the composition to the olfactory receptors is determined. In yet another embodiment, the degree of activation of the olfactory receptor by the composition is determined. For receptor antagonists, binding will occur, but no activation will occur; the invention embraces the identification of such  
10 antagonists.

The compositions for use are varied. A set of all volatile compounds can be used. A standard set of perfumes or odorants can be used. A set of commercially used scents can be used. Sets of compounds particularly useful in the invention are disclosed in co-pending United States Patent Application Serial No. 09/620,753. However, it must be emphasized  
15 that the invention is not limited to any one set or classification of compounds.

Preferred subsets of olfactory receptor polynucleotide sequences include:

SEQ ID NOS: 163, 331, 414, 425, 672, 762, 919, and 1027;

SEQ ID NOS: 809 and 1067;

SEQ ID NO: 744;

20 SEQ ID NOS: 207, 336, 441, and 615;

SEQ ID NOS: 157, 168, 197, 221, 250, 334, 340, 412, 413, 459, 491, 618, 690, 694, 759, 760, 761, 767, 819, 860, 872, 873, 917, 936, 939, 940, 947, 952, 958, 959, 1023, 1034, 1038, 1043, and 1044;

SEQ ID NOS: 783, 785, 882, 888, 922, and 925;

25 SEQ ID NOS: 707, 748, 752, 755, 756, 790, and 997;

SEQ ID NOS: 1065, 1066, 1067, 1068, 1069, 1070, 1071, 1072, 1073, 1074, 1075, 1076, 1077, 1078, 1079, 1080, 1081, 1082, 1083, and 1084;

SEQ ID NOS: 163, 239, 331, 335, 368, 381, 385, 414, 425, 514, 572, 596, 603, 628, 638, 642, 672, 674, 689, 744, 762, 809, 835, 885, 896, 919, 920, 938, 948, 972, 999,  
30 1007, 1014, and 1027;

SEQ ID NOS: 164, 173, 176, 180, 182, 184, 185, 188, 190, 194, 207, 210, 213, 214, 215, 217, 219, 220, 223, 226, 227, 229, 230, 234, 235, 240, 249, 255, 265, 270, 273, 274,

276, 277, 279, 281, 289, 291, 293, 294, 298, 302, 307, 311, 318, 319, 321, 330, 336, 339,  
341, 342, 343, 348, 351, 356, 359, 361, 365, 366, 367, 368, 370, 372, 373, 374, 375, 376,  
378, 379, 380, 382, 383, 384, 385, 388, 391, 392, 393, 398, 400, 401, 403, 408, 420, 423,  
427, 428, 431, 434, 435, 438, 439, 440, 441, 447, 448, 450, 455, 458, 464, 465, 468, 471,  
5 473, 474, 475, 478, 479, 481, 482, 484, 485, 492, 494, 499, 502, 508, 511, 512, 513, 515,  
526, 532, 534, 541, 543, 545, 546, 550, 552, 553, 557, 558, 560, 563, 564, 568, 572, 576,  
582, 583, 584, 585, 586, 588, 599, 600, 605, 606, 607, 608, 609, 610, 615, 620, 621, 631,  
632, 636, 638, 640, 642, 645, 648, 650, 651, 652, 654, 656, 657, 661, 662, 664, 668, 679,  
680, 686, 687, 689, 691, 696, 699, 700, 702, 706, 713, 720, 721, 723, 729, 734, 738, 745,  
10 768, 772, 773, 775, 791, 798, 799, 823, 857, 898, 900, 901, 903, 914, 931, 933, 937, 941,  
945, 948, 956, 965, 969, 983, 992, 993, 994, 999, 1003, 1005, 1009, 1010, 1011, 1019,  
1028, 1035, 1037, 1052, 1061, 1062, and 1063

SEQ ID NOS: 157, 161, 163, 168, 197, 200, 205, 218, 221, 242, 250, 331, 334,  
340, 412, 413, 414, 419, 425, 452, 453, 454, 456, 459, 462, 491, 591, 618, 622, 663, 665,  
15 667, 670, 672, 690, 694, 695, 709, 759, 760, 761, 762, 767, 819, 820, 822, 826, 832, 846,  
847, 860, 872, 873, 877, 881, 887, 908, 911, 913, 917, 919, 921, 936, 939, 940, 942, 944,  
947, 951, 952, 955, 958, 959, 960, 964, 975, 977, 979, 986, 1023, 1027, 1034, 1038, 1043,  
1044, 1049, and 1051;

SEQ ID NOS: 153, 154, 155, 156, 157, 158, 159, 160, 161, 162, 164, 165, 166,  
20 167, 168, 169, 170, 171, 172, 173, 174, 175, 176, 177, 178, 179, 180, 181, 182, 183, 184,  
185, 186, 187, 188, 189, 190, 191, 192, 193, 194, 195, 196, 197, 198, 199, 200, 201, 202,  
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25 258, 259, 260, 261, 262, 263, 264, 265, 266, 267, 268, 269, 270, 271, 272, 273, 274, 275,  
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389, 390, 391, 392, 393, 394, 395, 396, 397, 398, 399, 400, 401, 402, 403, 404, 405, 406,

407, 408, 409, 410, 411, 412, 413, 415, 416, 417, 418, 419, 420, 421, 422, 423, 424, 426,  
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10 573, 574, 575, 576, 577, 578, 579, 580, 581, 582, 583, 584, 585, 586, 587, 588, 589, 590,  
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611, 612, 613, 614, 615, 616, 617, 618, 619, 620, 621, 622, 623, 624, 625, 626, 627, 629,  
630, 631, 632, 633, 634, 635, 636, 637, 639, 640, 641, 643, 644, 645, 646, 647, 648, 649,  
650, 651, 652, 653, 654, 655, 656, 657, 658, 659, 660, 661, 662, 663, 664, 665, 666, 667,  
15 668, 669, 670, 671, 673, 675, 676, 677, 678, 679, 680, 681, 682, 683, 684, 685, 686, 687,  
688, 690, 691, 692, 693, 694, 695, 696, 697, 698, 699, 700, 701, 702, 703, 704, 705, 706,  
707, 708, 709, 710, 711, 712, 713, 714, 715, 716, 717, 718, 719, 720, 721, 722, 723, 724,  
725, 726, 727, 728, 729, 730, 731, 732, 733, 734, 735, 736, 737, 738, 739, 740, 741, 742,  
743, 745, 746, 747, 748, 749, 750, 751, 752, 753, 754, 755, 756, 757, 758, 759, 760, 761,  
20 763, 764, 765, 766, 767, 768, 769, 770, 771, 772, 773, 774, 775, 776, 777, 778, 779, 780,  
781, 782, 783, 784, 785, 786, 787, 788, 789, 790, 791, 792, 793, 794, 795, 796, 797, 798,  
799, 800, 801, 802, 803, 804, 805, 806, 807, 808, 810, 811, 812, 813, 814, 815, 816, 817,  
818, 819, 820, 821, 822, 823, 824, 825, 826, 827, 828, 829, 830, 831, 832, 833, 834, 836,  
837, 838, 839, 840, 841, 842, 843, 844, 845, 846, 847, 848, 849, 850, 851, 852, 853, 854,  
25 855, 856, 857, 858, 859, 860, 861, 862, 863, 864, 865, 866, 867, 868, 869, 870, 871, 872,  
873, 874, 875, 876, 877, 878, 879, 880, 881, 882, 883, 884, 886, 887, 888, 889, 890, 891,  
892, 893, 894, 895, 897, 898, 899, 900, 901, 902, 903, 904, 905, 906, 907, 908, 909, 910,  
911, 912, 913, 914, 915, 916, 917, 918, 921, 922, 923, 924, 925, 926, 927, 928, 929, 930,  
931, 932, 933, 934, 935, 936, 937, 939, 940, 941, 942, 943, 944, 945, 946, 947, 949, 950,  
30 951, 952, 953, 954, 955, 956, 957, 958, 959, 960, 961, 962, 963, 964, 965, 966, 967, 968,  
969, 970, 971, 973, 974, 975, 976, 977, 978, 979, 980, 981, 982, 983, 984, 985, 986, 987,  
988, 989, 990, 991, 992, 993, 994, 995, 996, 997, 998, 1000, 1001, 1002, 1003, 1004, 1005,

1006, 1008, 1009, 1010, 1011, 1012, 1013, 1015, 1016, 1017, 1018, 1019, 1020, 1021,  
1022, 1023, 1024, 1025, 1026, 1028, 1029, 1030, 1031, 1032, 1033, 1034, 1035, 1036,  
1037, 1038, 1039, 1040, 1041, 1042, 1043, 1044, 1045, 1046, 1047, 1048, 1049, 1050,  
1051, 1052, 1053, 1054, 1055, 1056, 1057, 1058, 1059, 1060, 1061, 1062, 1063, and 1064;

5 and any and all combinations of the foregoing sets.

The polypeptide translation products of those polynucleotide sequences form sets of preferred olfactory receptor polypeptides, as well as any and all combinations of those polypeptide sets. The preferred sets of polypeptide translation products, and any and all combinations thereof, are also preferred sets for use as libraries of olfactory receptors for  
10 scent analysis.

### Scent Fingerprinting

It will be appreciated that in many instances, analysis of a scent (whether in terms of  
15 receptor primary scent components, receptor quasi-primary scent components, receptor complex scent components, or other scent representations) is of great utility in and of itself, in addition to the utility of that analysis in scent re-creation. Thus, another embodiment of the invention encompasses "scent fingerprinting," which comprises analysis of a scent profile when re-creation of that scent may not be necessary or desirable. The distinction between scent  
20 profiling, as defined above, and scent fingerprinting, as defined here, is that scent profiling is a representation of a scent relative to a mammalian olfactory system in such a manner as to provide useful information about the interaction of the scent with that olfactory system, such as sufficient information to enable re-creation of the scent from receptor primary scent components. In contrast, scent fingerprinting can, but does not necessarily, provide such  
25 information.

Various applications and examples of scent fingerprinting can include, but are not limited to, the following illustrative situations. Natural gas is widely used as a heating and fuel supply, but is in itself odorless. Utility companies routinely add small amounts of odorants such as mercaptans to allow detection of natural gas leaks in households. Should a leak occur  
30 at an unattended site, however, potentially dangerous quantities of natural gas can accumulate. In such areas, a device which can recognize odorants would be useful.

Another use of scent fingerprinting is quality control of a manufacturing process. Many food items, such as freshly-baked bread and pastries, sauces, and cheeses, have distinct

odors. A manufacturer can record a scent fingerprint for a given food item, e.g. spaghetti sauce for packaging in jars. The quality of the product can then be monitored at various stages in manufacture and storage, and deviations from the established scent fingerprint can be used to alert the manufacturer to problems in manufacture or storage. Quality control scent fingerprints are not limited to food items, but can be used in any circumstance where a volatile component of an item of manufacture can be used as a quality control indicator, e.g., perfume, deodorants, solvent mixtures, etc.

While scent fingerprints need not be meaningful in terms of a mammalian olfactory system, it will be readily appreciated that a scent profile, which does represent a scent in a manner relevant to an olfactory system, is a special type of scent fingerprint. Additionally, the response of a device which yields a scent fingerprint of an odor (such as the "artificial nose" described in U.S. Pat. Nos. 5,571,401, 5,698,089, 5,788,833, 5,891,398 and 5,911,872) can be calibrated against the response of a mammalian olfactory system in order to transform the scent fingerprint generated by the device into a true scent profile which can be utilized to re-create an odor using receptor primary scent components, receptor quasi-primary scent components, or receptor complex scent components. The invention encompasses such data transformations.

#### Scent Editing

Representation of a scent as a scent profile provides the capability of editing the scent. A scent profile which represents a scent in terms of perceptive primary scent components is the most straightforward representation to edit. An example is the perceptive complex primary scent of "burned pizza" comprised of perceptive primary scent components of sausage, cheese, tomato sauce, and burned dough. In order to edit the scent to provide a more pleasant re-creation, the perceptive primary scent component of burned dough would simply be eliminated.

Other scent profiles can be edited using a knowledge of the perception of a particular components. Using our six-receptor example, suppose that the (1, 0, 0, 0, 1, 0) receptor complex scent component is known to provide an unpleasant aspect of the scent, while the (0, 1, 1, 1, 0, 1) component is known to provide the pleasant aspect of the scent. The first complex scent component can be omitted from the edited scent profile, leaving (0, 1, 1, 1, 0, 1) as the edited scent profile. (This would also alter the index values for scent re-creation, from 1 and 1, to 0 and 1.) More complex editing situations can be manipulated using computer algorithms as discussed above.

Individual scent components can be omitted, added, weakened, or intensified, and different scent components can be adjusted in different manners or degrees, depending on the desired result. The editing can be done interactively, with each edited scent emitted by the emitter module for evaluation by the user, or can be done automatically, with  
 5 removal/weakening or addition/intensifying of particular components specified in advance, on either an absolute scale or relative to other components.

The following examples are presented to illustrate, but not to limit, the invention.

### EXAMPLES

#### 10 **Example 1: Isolation of human olfactory receptor cDNAs**

Total RNA was extracted from human olfactory epithelium and polyA<sup>+</sup> RNA was obtained by oligo-dT selection. This RNA served as template for cDNA synthesis using reagents from the SMART cDNA Library construction kit (Clontech K1051-1; Palo Alto, CA). The Superscript II<sup>TM</sup> reverse transcriptase (Life Technologies, Gaithersburg, MD)  
 15 was used for first-strand synthesis.

Double-stranded cDNA was passed through a Chroma-Spin<sup>+</sup> STE-100 column (Clontech) to remove unreacted primers and cDNA fragments shorter than 100 nucleotides. The olfactory epithelial cDNA population was then subjected to amplification using primers homologous to conserved regions in GPCRs. The first primer set was homologous  
 20 to transmembrane segment 2 (TM2) and the second set was homologous to TM 7.5. The TM2 primer set contained 32 oligonucleotides, representing all possible nucleotide sequences capable of encoding the TM2 amino acid sequence motif P-M-Y-F/L-F/Y-F/L, and designed to be non-degenerate at their 3' ends. Sequences of the TM2 primers are as follows:

25

	CCN ATG TAY TTN CTC CTA	SEQ ID NO: 74
	CCN ATG TAY TTN CTC CTC	SEQ ID NO: 75
	CCN ATG TAY TTN CTC CTG	SEQ ID NO: 76
	CCN ATG TAY TTN CTC CTT	SEQ ID NO: 77
30	CCN ATG TAY TTN CTC TTA	SEQ ID NO: 78
	CCN ATG TAY TTN CTC TTC	SEQ ID NO: 79
	CCN ATG TAY TTN CTC TTG	SEQ ID NO: 80
	CCN ATG TAY TTN CTC TTT	SEQ ID NO: 81
	CCN ATG TAY TTN CTT CTA	SEQ ID NO: 82
35	CCN ATG TAY TTN CTT CTC	SEQ ID NO: 83
	CCN ATG TAY TTN CTT CTG	SEQ ID NO: 84

	CCN ATG TAY TTN CTT CTT	SEQ ID NO: 85
	CCN ATG TAY TTN CTT TTA	SEQ ID NO: 86
	CCN ATG TAY TTN CTT TTC	SEQ ID NO: 87
	CCN ATG TAY TTN CTT TTG	SEQ ID NO: 88
5	CCN ATG TAY TTN CTT TTT	SEQ ID NO: 89
	CCN ATG TAY TTN TTC CTA	SEQ ID NO: 90
	CCN ATG TAY TTN TTC CTC	SEQ ID NO: 91
	CCN ATG TAY TTN TTC CTG	SEQ ID NO: 92
	CCN ATG TAY TTN TTC CTT	SEQ ID NO: 93
10	CCN ATG TAY TTN TTC TTA	SEQ ID NO: 94
	CCN ATG TAY TTN TTC TTC	SEQ ID NO: 95
	CCN ATG TAY TTN TTC TTG	SEQ ID NO: 96
	CCN ATG TAY TTN TTC TTT	SEQ ID NO: 97
	CCN ATG TAY TTN TTT CTA	SEQ ID NO: 98
15	CCN ATG TAY TTN TTT CTC	SEQ ID NO: 99
	CCN ATG TAY TTN TTT CTG	SEQ ID NO: 100
	CCN ATG TAY TTN TTT CTT	SEQ ID NO: 101
	CCN ATG TAY TTN TTT TTA	SEQ ID NO: 102
	CCN ATG TAY TTN TTT TTC	SEQ ID NO: 103
20	CCN ATG TAY TTN TTT TTG	SEQ ID NO: 104
	CCN ATG TAY TTN TTT TTT	SEQ ID NO: 105

The TM7.5 primer set was designed to contain the reverse complement of all sequences capable of encoding the TM7.5 amino acid sequence motif P-F/L/I/V-I/V-F/Y-

25 S/T-L. The sequences of the TM7.5 primers are as follows:

	YYTNGTNYTNRYNCYGATANATNATNGGRTT	SEQ ID NO: 106
	YTRTTNCKNAGNWRTANATRAANGGRTT	SEQ ID NO: 107
	TCYTTRTTNCKNAGNGWRTANAYNASNGGRTT	SEQ ID NO: 108
30	TCNTSRTTNCKNARNSARTANATNATNGGRTT	SEQ ID NO: 109
	RTTNCKNARNSWRTANATRAANGGRTT	SEQ ID NO: 110

Reagents and enzymes for amplification were from the Advantage cDNA amplification kit (Clontech). A primary amplification reaction was constructed as follows:

35	5 µl olfactory epithelial cDNA (10-20 µg/ml)
	5 µl 10X PCR reaction buffer (Clontech)
	1 µl TM2 primer set (10 µM)
	1 µl TM7.5 primer set (10 µM)
	1 µl dNTP mix (10 mM each dATP, dCTP, dGTP, dTTP)
40	36 µl PCR-grade H <sub>2</sub> O
	1 µl Advantage polymerase mix (Clontech)

Amplification was conducted in a PE 480 thermal cycler, using 28 cycles of 95°C for 15 sec, 45°C for 45 sec and 72°C for 2 min. After cycling, the amplification mixture was treated for 1 hour at 37°C with 10 Units of BspEI and 10 Units of PstI restriction enzymes, to degrade non-specific amplification products.

5        The primary amplification products were size-fractionated by agarose gel electrophoresis, and amplification products having a length between 600 and 800 base pairs were selected for secondary amplification.

10        The secondary amplification reaction was conducted identically to the primary amplification reaction, except that the size-selected primary amplification product was used as template. Secondary amplification reactions containing products which generated a specific gel band of between 600 and 800 base pairs were extracted once with phenol/chloroform and once with chloroform, and nucleic acids were precipitated from the reactions by addition of 0.1 volume of 3M NaOAc (pH 4.8), 20 µg glycogen, and 1.5 volumes of cold 95% ethanol. The precipitate was collected by centrifugation, dried and  
15        resuspended in 15 µl distilled water. After the precipitate dissolved, 3 µl loading dye was added, and the sample was subjected to electrophoresis on a 1.0% low-melting agarose gel containing ethidium bromide. Electrophoresis was conducted at 60V for approximately 40 min, with a 1 kb marker in adjoining lanes.

20        Following electrophoresis, the gel was illuminated with long-wavelength ultraviolet light, and the band was excised from the gel. The gel slice was placed in a 0.5 ml tube, and the tube was heated at 68°C for 15 min. The temperature of the tube was then equilibrated at 45°C. (This is conveniently accomplished in a thermal cycler.) AgarACE™ (Promega) was then added to the tubes, according to the manufacturer's instructions, and incubation at 45°C was continued for 15 min. As a general rule, 2 µl of enzyme per 50 µl of gel slice is  
25        adequate. Following AgarACE™ digestion, the digestion mixture was extracted with phenol/chloroform according to the manufacturer's instructions, and nucleic acids were precipitated by addition of 0.1 volume of 3M NaOAc (pH 4.8), 20 µg glycogen, and 1.5 volumes of cold 95% ethanol. The precipitate was collected by centrifugation, dried and resuspended in 5 µl distilled water.

30        Gel-purified amplification products were cloned using the TOPO XL PCR Cloning Kit (Invitrogen) according to the manufacturer's instructions. After cloning, individual

colonies were selected at random for nucleotide sequence analysis of the inserts, using procedures for sequence determination that are well-known to those of skill in the art.

**Example 2: Use of olfactory receptor polypeptides for screening**

5        Components of a scent are identified by determining the interaction between one or more potential odorant molecules and one or more OR polypeptides. For example, if a known original scent involves binding to a particular set of ORs, any subsequent set of molecules which bind to that same set of ORs and stimulate or inhibit the response of the ORs to the same extent as the original scent is capable of re-creating that original scent. If  
10        each of the subsequent set of molecules interacts with one and only one OR, then the set of molecules is composed of receptor primary scent components. In similar fashion, scents which involve binding of multiple ORs can be recreated by identifying a molecule, or combination of molecules, which binds to that particular set of ORs.

      Binding of molecules to ORs is determined by a number of methods that are well-  
15        known in the art including, but not limited to, in vitro and in silico methods as described herein. Binding of molecules to ORs can also be determined or approximated by using quantitative structure-activity relationships as described herein.

**Example 3: Identification of agonists and antagonists of olfactory receptors**

20        Interaction of an odorant with a particular OR embedded in the membrane of an olfactory neuron will activate a signaling cascade within the neuron, ultimately resulting in the perception of a particular smell. A molecule, produced for example by combinatorial chemistry, which activates a similar or identical signaling cascade, will induce the perception of the same smell. Such a molecule would be considered a OR agonist. An OR  
25        agonist, once identified, can be used as a probe to identify additional agonists, as well as antagonists, of that particular OR.

      Assays for the activation and the end product(s) of signaling cascades are known in the art. For example, direct  $\text{Ca}^{++}$  imaging can be employed, using either dye -labeled  $\text{Ca}^{++}$  or dyes that are sensitive to  $\text{Ca}^{++}$  concentration. Such dyes, and techniques for their use,  
30        are available from, for example, Molecular Dynamics (Sunnyvale, CA) and Molecular Probes (Eugene, OR).

Because ORs are transmembrane proteins, identification of agonists and/or antagonists for a particular OR require that the OR is present either in a living cell or in a membrane preparation.

In one embodiment of a method for the determination of OR agonists or antagonists, a known OR agonist is labeled *in situ*, or is resynthesized with an attached label, and is bound to an OR. The effect of various test molecules on the binding of the labeled OR agonist is then determined. Labeling of an OR agonist is accomplished by any of a number of methods that are known to those of skill in the art including, but not limited to, various fluorescent labels (for example, chemical fluorochromes or green fluorescent protein). Binding of the OR agonist is measured by any of a number of competitive binding assays, as are known in the art. A test molecule that displaces the agonist from the OR (*i.e.*, reduces the binding of the agonist) is identified as a candidate agonist or antagonist of the particular OR. In a subsequent experiment, the candidate molecule is bound to the OR, and the effect on the signaling cascade induced by the original agonist is determined. A similar of higher level of activation is indicative of an agonist; while a reduced level of activation of the signaling cascade reflects the action of an antagonist.

In additional embodiments of the displacement assay, an unlabeled agonist is used, and its degree of binding is determined by mass spectrometry. *See*, for example, U.S. Patent No. 5,894,063; U.S. Patent No. 5,719,060; and Wei *et al.* (1999) *Nature* 399:243-246.

In another embodiment, fluorescent microparticles ("beads"), which can be separated by flow cytometry, are used to identify OR agonists and antagonists. Such beads are available, for example, from Luminex (Austin, TX). Multiple different ORs are attached to the beads, wherein each distinct color of bead is associated with a particular OR. The collection of beads, containing different ORs, is exposed to a test molecule or a collection of test molecules, such as can be synthesized by combinatorial chemistry, and binding of the test molecule(s) is determined, for example, by use of a labeled ligand of the test molecule(s). The beads are sorted according to their color by flow cytometry. Correlation of test molecule binding with bead color allows the determination of test molecules capable of binding to the OR. Agonist or antagonist function of an OR binding molecule is determined by methods described *supra*.

**Example 4: Summary of search parameters for homology searches**

Step 1: (masking) rempolyatmask raw sequence on -NONE- [?] with remAT\_moderate (15) . Continue to step 2.

Step 2: (masking) mask masked sequence from step 1 on RepBase [N] with  
5 mask\_moderate (85) . Continue to step 3.

Step 3: (masking) mask masked sequence from step 2 on VecBase [N] with  
mask\_moderate (85) . Continue to step 4.

Step 4: blastn masked sequence from step 3 on NR-Nuc [N] with blastn\_10\_hits (V=10  
B=10) . If the P/Z score is  $> 1.0E-50$ , or no hits are found go to step 5. Otherwise, stop.

10 Step 5: blastx masked sequence from step 3 on NR-Pro [P] with blastx\_10\_hits (V=10  
B=10) . If the P/Z score is  $> 1.0E-50$ , or no hits are found go to step 6. Otherwise, stop.

Step 6: blastn masked sequence from step 3 on GB\_CurAwareness-Nuc [N] with  
blastn\_10\_hits (V=10 B=10) . If the P/Z score is  $> 1.0E-50$ , or no hits are found go to step  
7. Otherwise, stop.

15 Step 7: blastx masked sequence from step 3 on GB\_CurAwareness-Pro [P] with  
blastx\_10\_hits (V=10 B=10) . If the P/Z score is  $> 1.0E-50$ , or no hits are found go to step  
8. Otherwise, stop.

Step 8: tblastx masked sequence from step 3 on NR-Nuc [N] with tblastx\_10\_hits (V=10  
B=10) . If the P/Z score is  $> 1.0E-50$ , or no hits are found go to step 9. Otherwise, stop.

20 Step 9: blastn masked sequence from step 3 on EST [N] with blastn\_10\_hits (V=10 B=10) .  
If the P/Z score is  $> 1.0E-50$ , or no hits are found go to step 10. Otherwise, stop.

Step 10: blastn masked sequence from step 3 on STS [N] with blastn\_10\_hits (V=10 B=10)  
. Stop.

**Example 5: Summary of search results**

Step	Program	Database	Score	Sequences By Best Hit's Score				No Hits	Run	Not Finished	Not Run	
1	rempolyat mask	-NONE-[P]	P/Z/E	0	> 1.0 >=	0	>= 1.0 >	0	<u>74</u>	74	0	0
2	mask	RepBase[N]	P/Z/E	0	> 1.0 >=	0	>= 1.0 >	0	<u>74</u>	74	0	0
3	mask	VecBase[N]	P/Z/E	0	> 1.0 >=	0	>= 1.0 >	0	<u>74</u>	74	0	0
4	blastn	NR-Nuc[N]	P/Z/E	<u>46</u>	< 1.0E-20 <=	<u>28</u>		0	74	0	0	
5	blastx	NR-Pro[P]	P/Z/E	<u>16</u>	< 1.0E-20 <=	<u>34</u>		0	50	0	24	
6	blastn	GB_CurAwareness-Nuc[N]	P/Z/E	<u>17</u>	< 1.0E-20 <=	<u>31</u>		0	48	0	26	
7	blastx	GB_CurAwareness-Pro[P]	P/Z/E	<u>13</u>	< 1.0E-20 <=	<u>28</u>		<u>2</u>	43	0	31	
8	tblastx	NR-Nuc[N]	P/Z/E	<u>14</u>	< 1.0E-20 <=	<u>29</u>		0	43	0	31	
9	blastn	EST[N]	P/Z/E	<u>10</u>	< 1.0E-20 <=	<u>33</u>		0	43	0	31	
10	blastn	STS[N]	P/Z/E	<u>5</u>	< 1.0E-20 <=	<u>33</u>		0	38			

5

**Example 6. Datamining and analysis from GenBank**

*Datamining.* A datamining pipeline was built to detect all available OR-like sequences in the public databases and to update the results as new database versions are released. tblastn (Altschul et al., 1997) was used to compare amino acid query sequences to the non-redundant version of GenBank (partitions nt, htg and est\_human, all updated to August 6th, 2000), with a non-stringent expectation value cutoff of 1e-4. The queries used included 96 curated OR sequences representing all known families (SEQ ID NO:2651 through SEQ ID NO:2747) and 249 additional HORDE entries (SEQ ID NO:2402 through SEQ ID NO:2650). In a second round 105 newly mined mouse genes (SEQ ID NO:2296 through SEQ ID NO:2401) and 344 newly mined human genes (SEQ ID NO:2009 through SEQ ID NO:2295) were used as additional queries (all datasets are available

electronically). All resulting database entries were catalogued by species and subdivided into four types: mRNA, EST, DNA and genomic, the latter including entries annotated with keyword HTGS\_PHASE1-3, or with length at least 10 kb. Low-pass genomic sampling sequences were ignored (keyword HTGS\_PHASE0). In addition, a set of 132 olfactory sequence tag (OST) sequences was used. All sequences used were split into contigs according to annotation or, where unavailable, according to runs of at least 50 Ns. All resulting contigs were analyzed for interspersed repeats using RepeatMasker (Smit and Green, 1997). Subcontigs were defined as segments between interspersed repeats, ignoring simple repeats and low-complexity regions.

*Localization of genomic clones.* The University of Santa Cruz (UCSC) Working Draft Sequence ("golden path", <http://genome.ucsc.edu>) presents a first tentative assembly of the finished and draft human genomic sequence based on the WUSTL clone map (<http://genome.wustl.edu/gsc>). The "golden path" data was used to assign a coordinate to each finished or unfinished genomic clone, in Mb from the p telomere. In parallel, the Unified DataBase (UDB) was used to assign similar Mb coordinates to the clones, based on their marker contents (Chalifa-Caspi et al., 1998). The two maps are largely colinear, and were integrated based on the coordinates of clones that could be localized in both. Clones for which no coordinate could be obtained by either method were assigned a chromosome according to UDB, by sequence similarity to another mapped clone, by annotation, or by e-PCR (Schuler, 1997).

*Detection of OR sequences.* Each subcontig was compared using FASTY (Pearson et al., 1997) to a curated set of OR protein sequences from several species, yielding a conceptual translation product. The possibility of a pseudogene being disrupted by the insertion of interspersed repeats was taken into account, with the two or more resulting parts being therefore located in different subcontigs. Such compatible candidate sequences were automatically joined into a combined reconstructed pseudogene. Whenever possible, all resulting sequences were trimmed or extended to use a suitable ATG codon for initiation and to end at a stop codon, but avoiding those stop codons that yield products shorter than 275 amino acids. The sequences were finally split into OR or non-OR by comparing them to previously recognized OR sequences and to a non-redundant database of non-OR GPCRs which we extracted from Swiss-Prot. To be automatically classified as an OR, a

new sequence has to be at least 40% identical over at least 100 amino acids to another OR. A more stringent cutoff (50%) was required for shorter sequences.

*Definition of OR genes.* A given gene could be represented in more than one overlapping genomic clone. Such redundancy was removed by considering two sequences  
5 as representing the same gene, if they are in the same chromosome, located in clones less than 300 kb apart and at least 99% identical at the nucleotide level. An exception to this rule is when two genes coappear in the same clone, in which case they were considered to be distinct genes. Sequences localized to a chromosome but without a coordinate were only compared to other sequences within that chromosome, and finally those sequences  
10 lacking a chromosomal assignment were compared to the rest, applying only the criterion of sequence similarity. For each resulting gene with more than one constituent sequence, a consensus nucleotide sequence was created after multiple alignment by ClustalW (Higgins et al., 1996) using the fast comparison parameter. This was followed by conceptual translation and end trimming to suitable start and stop codons, as above. Genes with length  
15 at least 275 amino acids without frame disruptions (frameshifts, in-frame stop codons or disrupting interspersed repeats) were considered to be full-length and apparently intact. For partial sequences without frame disruptions no statement could be made on their apparent functionality, except when the partial sequences were observed in the genome as such, in which case they were considered to be pseudogenes. Finally, each OR gene was  
20 assigned a family and subfamily by amino acid sequence similarity to previously classified OR genes.

The references cited in this example are: Altschul, S. F., Madden, T. L., Schaffer, A. A., Zhang, J., Zhang, Z., Miller, W. and Lipman, D. J. (1997) Gapped BLAST and PSI-BLAST: a new generation of protein database search programs. *Nucleic Acids Res* 25:  
25 3389-402; Chalifa-Caspi, V., Prilusky, J. and Lancet, D. (1998) The Unified Database. Weizmann Institute of Science, Bioinformatics Unit and Genome Center (Rehovot, Israel). World Wide Web URL: [bioinformatics.weizmann.ac.il/udb](http://bioinformatics.weizmann.ac.il/udb); Higgins, D. G., Thompson, J. D. and Gibson, T. J. (1996) Using CLUSTAL for multiple sequence alignments. *Methods Enzymol* 266: 383-402; Pearson, W. R., Wood, T., Zhang, Z. and Miller, W. (1997)  
30 Comparison of DNA sequences with protein sequences. *Genomics* 46: 24-36; Schuler, G. D. (1997) Sequence mapping by electronic PCR. *Genome Res* 7: 541-50; and Smit, A. F.

A. and Green, P. (1997) RepeatMasker at URL: [repeatmasker.genome.washington.edu/cgi-bin/RM2\\_req.pl](http://repeatmasker.genome.washington.edu/cgi-bin/RM2_req.pl).

5 Tables 1 and 2 contain additional information regarding SEQ ID NO. 153 to SEQ ID NO. 1085. The explanation of the entries in Tables 1 and 2 is as follows:

Symbol: The Human Genome Organization gene symbol, as allotted by a procedure to be published soon. OR = Olfactory Receptor, numeral to the immediate right - family designation, capital letters - subfamily designation, rightmost numeral - individual gene within subfamily, n appearing when such number is not assigned yet; P = Pseudogene.

10 All ORs within a family share at least 40% protein sequence identity.

All ORs within a subfamily share at least 60% protein sequence identity.

HORDE: The H serial number within the Human Olfactory Receptor Data Exploratorium (URL [bioinfo.weizmann.ac.il/HORDE](http://bioinfo.weizmann.ac.il/HORDE)). The numeral 38 represents the HORDE build (version), gxxx is the individual gene number.

15 Digi: Appearance of a DSnn serial number here means that the sequence has been PCR-amplified from human olfactory epithelial cDNA using degenerate primers at the transmembrane helix 2 and transmembrane helix 7. See separate page for explanations on the analysis of the DS entries.

20 OST: OSTnnn is the serial number of the sequence in the Olfactory Sequence Tag collection in the Lancet laboratory (URL [bioinfo.weizmann.ac.il/HORDE](http://bioinfo.weizmann.ac.il/HORDE)). Appearance here means that the sequence has been PCR-amplified from human genomic DNA using degenerate primers at the transmembrane helix 2 and transmembrane helix 7. There are a total of 112 OST sequences.

25 Trivial name: One or more aliases given to the same gene by different laboratories. Many of the trivial names are of the form ORnn-xx, whereby nn is a chromosome number and xx is an arbitrary numerical identifier.

Tran: (transcribed) Plus appears if the entry was sequenced from cDNA, or was found in the Expressed Sequence Tags (EST) databases. Plus also appears if in the public databases the gene was annotated as mRNA.

30 Int.: (intact) "Yes" indicates that the gene may be intact, as there are no obvious sequence frame disruptions. "Put" (putative) indicates the same, except that the known sequence is short, hence there may be disruptions in the unsequenced segments. "Pol"

indicates a polymorphism between intact and pseudogenic alleles. When no word appears, this indicates a pseudogene.

E: (Extent) FL indicates that the Full Length sequence is known (typically  $310 \pm 30$  amino acids).

5 D: The number of sequence disruptions in the known sequence of a pseudogene.

C: The human chromosomal location of the OR gene, assigned as described under Mb coord.

Mb coord: The location of the OR gene within a human chromosome, in megabase units, beginning at the p-telomere and ending at the q-telomere, computed based on  
10 integrating information from Unified Database (URL is [bioinfo.weizmann.ac.il/udb](http://bioinfo.weizmann.ac.il/udb)) and the University of California Santa Cruz (URL is [genome.ucsc.edu](http://genome.ucsc.edu)).

CDR: The 17 amino acids suggested to line the odorant ligand binding pocket, delineated by the extracellular 2/3 of transmembrane helices 3,4 and 5. The assignment is based on an algorithm at URL

15 [bioinformatics.weizman.ac.il/HORDE/humanGenes/CDR.html](http://bioinformatics.weizman.ac.il/HORDE/humanGenes/CDR.html).

%: (% id) The percent protein identity between the human sequence in the current line and the known rodent (rat or mouse) OR sequence to which it bears the highest similarity.

S: (Species) Rat (R) or mouse (M).

20 Acc: The Genbank accession number of the clone that contains the rodent sequence.

Range: The positions x ... y of the first and last bases within the rodent which constitute the OR coding region. If x>y then the OR is on the reverse strand.

Table 1

SEQ ID #	Symbol	HORDE	Digi	OST	Trivial	Tran	Int.	E
153	OR10D3	H38g001			HSHTPCR09			
154	OR7EnP	H38g002						FL
155	OR1D5	H38g003		OST901	OR17-31	+	pol	FL
156	OR10NnP	H38g00						FL

SEQ ID #	Symbol	HORDE	Digi	OST	Trivial	Tran	Int.	E
		4						
157	OR2F1	H38g005		OST902	OLF3;OR7-139;OR7-140	+	yes	FL
158	OR7EnP	H38g006						FL
159	OR8FnP	H38g007						FL
160	OR2Q1P	H38g008			DJ0669B10;OR7-2			FL
161	OR2W1	H38g009			AL035402-B;dJ88J8.1;hs6M1-15		yes	FL
162	OR7EnP	H38g010				+		FL
163	OR6B1	H38g011	DS119		OR7-3;WUGSC:H_DJ0669B10.3	+	yes	FL
164	OR10Kn	H38g012					yes	FL
165	ORnP	H38g013				+		FL
166	OR4F2P	H38g014			HS191N21;dJ191N21.4;hs6M1-11			FL
167	OR7EnP	H38g015						FL
168	OR1F2P	H38g016			OLFMF2	+	yes	FL
169	OR2P1P	H38g017			AL035402-A;dJ88J8.2;hs6M1-26			
170	OR7E43P	H38g018		OST903	OR4-116			FL
171	OR4F1	H38g019			HSDJ0609N19			FL
172	OR7E55P	H38g020		OST904	OR2DG;OR3.2			FL
173	OR13Dn	H38g021					yes	FL
174	OR4CnP	H38g022						FL
175	OR10D1P	H38g023		OST074	HSHTPCR03	+		FL
176	OR4Cn	H38g02					yes	FL

SEQ ID #	Symbol	HORDE	Digi	OST	Trivial	Tran	Int.	E
		4						
177	OR8GnP	H38g02 5						
178	OR13CnP	H38g02 6						FL
179	OR4CnP	H38g02 7						FL
180	OR13Cn	H38g02 8					yes	FL
181	OR4CnP	H38g02 9						
182	OR51Bn	H38g03 0					yes	FL
183	OR7E5P	H38g03 1		OST905	OR11-12			FL
184	OR13Cn	H38g03 2					yes	FL
185	OR4Sn	H38g03 3					yes	FL
186	OR51BnP	H38g03 4						FL
187	OR6JnP	H38g03 5						FL
188	OR51Bn	H38g03 6					yes	FL
189	OR7EnP	H38g03 7						FL
190	OR2An	H38g03 8					yes	FL
191	OR7E22P	H38g03 9			OR3.6;OR6DG			FL
192	OR7E4P	H38g04 0			OR11-11a			FL
193	OR7E66P	H38g04 1		OST906	OR3.3;OR3DG;hg630			FL
194	OR6Mn	H38g04 2					yes	FL
195	OR2ALnP	H38g04 3						
196	OR6MnP	H38g04 4						FL

SEQ ID #	Symbol	HORDE	Digi	OST	Trivial	Tran	Int.	E
197	OR4D1	H38g04 5			AC005962-A;HSTPCR16	+	yes	FL
198	OR5D2P	H38g04 6		OST907	OR11-7a;OR912-91			FL
199	OR7E38P	H38g04 7		OST127	AC004967	+		FL
200	OR4D2	H38g04 8			AC005962-B		yes	FL
201	OR7E7P	H38g04 9			AC004967-A			FL
202	OR5AHnP	H38g05 0						
203	OR2U2P	H38g05 1			AL050339- B;dJ974I11.2;hs6M1- 23			FL
204	OR2U1P	H38g05 2			974I11;AL050339- C;dJ974I11.3;hs6M1- 24			FL
205	OR2H2	H38g05 3			AC006137- A;dJ271M21.2;hs6M1- 12		yes	FL
206	OR2H5P	H38g05 4		OST616	HS271M21;hs6M1-13			FL
207	OR2In	H38g05 5				+	yes	FL
208	OR11HnP	H38g05 6						FL
209	OR7EnP	H38g05 7				+		
210	OR9In	H38g05 8					yes	FL
211	OR2AFnP	H38g05 9						FL
212	OR13KnP	H38g06 1						FL
213	OR13Cn	H38g06 2					yes	FL
214	OR13Fn	H38g06 3					yes	FL
215	OR9Qn	H38g06 4					yes	FL

SEQ ID #	Symbol	HORDE	Digi	OST	Trivial	Tran	Int.	E
216	OR2TnP	H38g06 5						FL
217	OR4Kn	H38g06 6					yes	FL
218	OR2B8P	H38g06 7			dJ313I6.4;hs6M1-29P		yes	FL
219	OR2Tn	H38g06 8					yes	FL
220	OR4Kn	H38g06 9					yes	FL
221	OR2A4	H38g07 0			WUGSC:H_DJ0988G15.2	+	yes	FL
222	OR7EnP	H38g07 1						FL
223	OR4Kn	H38g07 2					yes	FL
224	OR13InP	H38g07 3						FL
225	OR7EnP	H38g07 4						FL
226	OR6Jn	H38g07 5					yes	FL
227	OR4Mn	H38g07 6					yes	FL
228	OR4VnP	H38g07 7						FL
229	OR6Xn	H38g07 8					yes	FL
230	OR51Gn	H38g07 9					yes	FL
231	OR6EnP	H38g08 0						FL
232	OR4NnP	H38g08 1						FL
233	OR6MnP	H38g08 2						FL
234	OR4Nn	H38g08 3					yes	FL
235	OR4Cn	H38g08 4					yes	FL

SEQ ID #	Symbol	HORDE	Digi	OST	Trivial	Tran	Int.	E
236	OR4KnP	H38g08 5						FL
237	ORnP	H38g08 6						
238	OR5D3	H38g08 7		OST908	OR11-8b;OR11-8c			
239	OR2G1P	H38g08 8	DS13;D S16	OST619	dJ974I11.4;hs6M1-25	+		FL
240	OR4Kn	H38g08 9					yes	FL
241	OR8BnP	H38g09 0						FL
242	OR2B2	H38g09 1			OR6-1;dJ193B12.4		yes	FL
243	OR7EnP	H38g09 2						FL
244	OR4KnP	H38g09 3						FL
245	OR2AD1P	H38g09 4			dJ25J6.1;hs6M1-8P			FL
246	OR1AAnP	H38g09 5						FL
247	OR1E3P	H38g09 6			OR17-210			FL
248	OR8BnP	H38g09 7						FL
249	OR5Hn	H38g09 8					yes	FL
250	OR1G1	H38g09 9		OST909	OR17-130;OR17-209	+	yes	FL
251	OR5HnP	H38g10 0						FL
252	ORnP	H38g10 1						
253	ORnP	H38g10 2						
254	OR4PnP	H38g10 3						FL
255	OR13Hn	H38g10 4					yes	FL

SEQ ID #	Symbol	HORDE	Digi	OST	Trivial	Tran	Int.	E
256	OR7D1P	H38g10 5		OST910	CIT-B-440L2;OR19-131;OR19-A			FL
257	OR4KnP	H38g10 6						FL
258	OR7E24	H38g10 7		OST911	CIT-B-440L2;OR19-8	+		FL
259	OR51NnP	H38g10 8						FL
260	OR7E18P	H38g10 9		OST912	OR19-14;TPCR26	+		FL
261	OR7E19P	H38g11 0		OST913	HSCIT-B-440L2;OR19-7;TPCR110	+		FL
262	OR7E41P	H38g11 1		OST914	OR11-20;hg84			FL
263	OR2R1	H38g11 2		OST058				FL
264	OR10ACn P	H38g11 3						FL
265	OR51Ln	H38g11 4					yes	FL
266	OR52JnP	H38g11 5						FL
267	OR9LnP	H38g11 6						
268	OR51PnP	H38g11 7						FL
269	OR5HnP	H38g11 8						FL
270	OR51An	H38g11 9					yes	FL
271	OR5HnP	H38g12 0						FL
272	ORnP	H38g12 1						
273	OR52En	H38g12 2					yes	FL
274	OR5Hn	H38g12 3					yes	FL
275	OR4CnP	H38g12 4						FL

SEQ ID #	Symbol	HORDE	Digi	OST	Trivial	Tran	Int.	E
276	OR52En	H38g12 5					yes	FL
277	OR10Dn	H38g12 6					yes	FL
278	OR5HnP	H38g12 7						FL
279	OR13An	H38g12 8					yes	FL
280	OR5HnP	H38g12 9						FL
281	OR5Kn	H38g13 0					yes	FL
282	OR7EnP	H38g13 1						FL
283	OR4DnP	H38g13 2						FL
284	OR2ARnP	H38g13 3						
285	OR7E29P	H38g13 4		OST032				FL
286	OR4CnP	H38g13 5						FL
287	OR5PnP	H38g13 6						FL
288	OR7EnP	H38g13 7						FL
289	OR56An	H38g13 8					yes	FL
290	OR56AnP	H38g13 9						
291	OR5Pn	H38g14 0					yes	FL
292	OR7E53P	H38g14 1		OST915	OR3-142; OR3-143			FL
293	OR5Pn	H38g14 2					yes	FL
294	OR52Ln	H38g14 3					yes	FL
295	OR5E1	H38g14 4			HSTPCR24	+		FL

SEQ ID #	Symbol	HORDE	Digi	OST	Trivial	Tran	Int.	E
296	OR56AnP	H38g14 5						
297	OR4KnP	H38g14 6						
298	OR52Ln	H38g14 7					yes	FL
299	OR7EnP	H38g14 8						
300	OR52XnP	H38g14 9						FL
301	ORnP	H38g15 0						
302	OR56An	H38g15 1					yes	FL
303	OR56AnP	H38g15 2						
304	OR1R1P	H38g15 3			OR17-1			FL
305	OR52EnP	H38g15 4						FL
306	OR51AnP	H38g15 5						FL
307	OR51An	H38g15 6					yes	FL
308	OR4CnP	H38g15 7						FL
309	OR52JnP	H38g15 8						FL
310	OR4RnP	H38g15 9						
311	OR52Jn	H38g16 0					yes	FL
312	OR4CnP	H38g16 1						FL
313	OR51AnP	H38g16 2						FL
314	OR7EnP	H38g16 3						FL
315	OR5MnP	H38g16 4						FL

SEQ ID #	Symbol	HORDE	Digi	OST	Trivial	Tran	Int.	E
316	OR10ABn P	H38g16 5						FL
317	OR52SnP	H38g16 6						FL
318	OR5Mn	H38g16 7					yes	FL
319	OR10Sn	H38g16 8					yes	FL
320	OR5MnP	H38g16 9						FL
321	OR10Gn	H38g17 0					yes	FL
322	ORnP	H38g17 1						FL
323	OR5MnP	H38g17 2						FL
324	OR10GnP	H38g17 3						
325	OR10TnP	H38g17 4						FL
326	ORnP	H38g17 5						
327	OR10RnP	H38g17 6						FL
328	OR5MnP	H38g17 7						FL
329	OR7EnP	H38g17 8						FL
330	OR10Tn	H38g17 9					yes	FL
331	OR1E1	H38g18 0	DS37;D S43;DS 46	OST916	HGMP07I;OR17-2;OR17- 32	+	yes	FL
332	OR5BKnP	H38g18 1						
333	OR5MnP	H38g18 2						FL
334	OR3A3	H38g18 3		OST917	OR17-137;OR17- 16;OR17-201	+	yes	FL
335	OR10ADn P	H38g18 4	DS10			+		FL

SEQ ID #	Symbol	HORDE	Digi	OST	Trivial	Tran	Int.	E
336	OR10Rn	H38g18 5				+	yes	FL
337	OR5TnP	H38g18 6						FL
338	OR4GnP	H38g18 7						FL
339	OR6Yn	H38g18 8					yes	FL
340	OR1E2	H38g18 9		OST918	OR17-135;OR17-93	+	yes	FL
341	OR8Hn	H38g19 0					yes	FL
342	OR4Fn	H38g19 1					yes	FL
343	OR10Kn	H38g19 2					yes	FL
344	OR7LnP	H38g19 3						
345	OR8InP	H38g19 4						FL
346	OR10RnP	H38g19 5						
347	OR2AFnP	H38g19 6						FL
348	OR8Kn	H38g19 7					yes	FL
349	ORnP	H38g19 8						
350	OR8KnP	H38g19 9						FL
351	OR51Hn	H38g20 0					yes	FL
352	OR7EnP	H38g20 1						FL
353	ORnP	H38g20 2						
354	OR5BMnP	H38g20 3						FL
355	OR10GnP	H38g20 4						

SEQ ID #	Symbol	HORDE	Digi	OST	Trivial	Tran	Int.	E
356	OR2Yn	H38g20 5					yes	FL
357	OR10DnP	H38g20 6						FL
358	OR3BnP	H38g20 7						FL
359	OR8Dn	H38g20 8					yes	FL
360	OR5RnP	H38g20 9						
361	OR10Gn	H38g21 0					yes	FL
362	OR5BDnP	H38g21 1						FL
363	OR5ALnP	H38g21 2						FL
364	OR52HnP	H38g21 3						
365	OR10Gn	H38g21 4					yes	FL
366	OR5Mn	H38g21 5					yes	FL
367	OR51Mn	H38g21 6					yes	FL
368	OR6Tn	H38g21 7	DS15;D S146;D S147			+	yes	FL
369	OR6DnP	H38g21 8						FL
370	OR4B1	H38g21 9		OST208			yes	FL
371	OR5ALnP	H38g22 0						FL
372	OR51Qn	H38g22 1					yes	FL
373	OR4Dn	H38g22 2					yes	FL
374	OR52Nn	H38g22 3					yes	FL
375	OR4Xn	H38g22 4					yes	FL

SEQ ID #	Symbol	HORDE	Digi	OST	Trivial	Tran	Int.	E
376	OR8Jn	H38g22 5					yes	FL
377	OR51JnP	H38g22 6						FL
378	OR10Gn	H38g22 7					yes	FL
379	OR52En	H38g22 8					yes	FL
380	OR4Xn	H38g22 9					yes	FL
381	OR10A2	H38g23 0	DS5;DS 53;DS5 6	OST363		+		FL
382	OR5Mn	H38g23 1					yes	FL
383	OR52En	H38g23 2					yes	FL
384	OR8Kn	H38g23 3					yes	FL
385	OR10An	H38g23 4	DS55			+	yes	FL
386	OR8LnP	H38g23 5						FL
387	OR5BPnP	H38g23 6						
388	OR52Nn	H38g23 7					yes	FL
389	ORnP	H38g23 8						
390	OR8JnP	H38g23 9						FL
391	OR5Mn	H38g24 0					yes	FL
392	OR52En	H38g24 1					yes	FL
393	OR5Tn	H38g24 2					yes	FL
394	OR52NnP	H38g24 3						FL
395	OR4B2P	H38g24 4		OST919	hg449			FL

SEQ ID #	Symbol	HORDE	Digi	OST	Trivial	Tran	Int.	E
396	OR51KnP	H38g24 5						FL
397	OR52QnP	H38g24 6						FL
398	OR4Fn	H38g24 7					yes	FL
399	OR11MnP	H38g24 8						
400	OR52Nn	H38g24 9					yes	FL
401	OR56An	H38g25 0					yes	FL
402	OR5AwnP	H38g25 1						FL
403	OR52Nn	H38g25 2					yes	FL
404	ORnP	H38g25 3						
405	OR52EnP	H38g25 4						FL
406	OR5BHnP	H38g25 5						FL
407	OR4QnP	H38g25 6						FL
408	OR51En	H38g25 7					yes	FL
409	OR11KnP	H38g25 8						FL
410	OR12D1P	H38g25 9			AC004174- B;dJ994E9.7;hs6M1-19			FL
411	OR4NnP	H38g26 0				+		FL
412	OR11A1	H38g26 1			AC004174- A;dJ994E9.6;hs6M1-18	+	yes	FL
413	OR10C1	H38g26 2			AC004174;dJ994E9.5;h s6M1-17	+	yes	FL
414	OR2H1	H38g26 3	DS114		OLFR42A-9004-14;OR6- 2;dJ994E9.4;hs6M1-16	+	yes	FL
415	OR9RnP	H38g26 4						FL

SEQ ID #	Symbol	HORDE	Digi	OST	Trivial	Tran	Int.	E
416	OR4FnP	H38g26 5						
417	OR7D4	H38g26 6		OST920	OR19-B;hg105			FL
418	OR7E25P	H38g26 7		OST921	CIT-B-440L2;OR19-C			FL
419	OR2D2	H38g26 8			OR11-610		yes	FL
420	OR10An	H38g26 9					yes	FL
421	OR2WnP	H38g27 0				+		
422	OR7E16P	H38g27 1		OST922	CIT-B-440L2;OR19- 133;OR19-9			FL
423	OR52Pn	H38g27 2					yes	FL
424	OR6AnP	H38g27 3						FL
425	OR7D2	H38g27 4	DS70;D S73	OST923	HTPCRHO3;OR19-4	+	yes	FL
426	OR52UnP	H38g27 5						FL
427	OR2AGn	H38g27 6					yes	FL
428	OR7G3	H38g27 7		OST085			yes	FL
429	OR56BnP	H38g27 8						FL
430	OR2AGnP	H38g27 9						FL
431	OR56Bn	H38g28 0					yes	FL
432	OR6AnP	H38g28 1						FL
433	OR4FnP	H38g28 2						FL
434	OR6Wn	H38g28 3					yes	FL
435	OR4Mn	H38g28 4					yes	FL

SEQ ID #	Symbol	HORDE	Digi	OST	Trivial	Tran	Int.	E
436	OR52YnP	H38g28 5						
437	OR11HnP	H38g28 6						FL
438	OR9An	H38g28 7					yes	FL
439	OR5Mn	H38g28 8					yes	FL
440	OR6Vn	H38g28 9					yes	FL
441	OR4Nn	H38g29 0				+	yes	FL
442	OR51AnP	H38g29 1						FL
443	OR9PnP	H38g29 2						
444	OR4H6P	H38g29 3			OR15-71;OR15-82			FL
445	OR51FnP	H38g29 4						FL
446	OR7E1P	H38g29 5			AC004923			FL
447	OR51Tn	H38g29 6					yes	FL
448	OR2Vn	H38g29 7					yes	FL
449	OR51HnP	H38g29 8						FL
450	OR51An	H38g29 9					yes	FL
451	OR2AInP	H38g30 0						FL
452	OR2F2	H38g30 1			OR7- 1;WUGSC:H_DJ0669B10. 1		yes	FL
453	OR1F12	H38g30 2			dJ313I6.5;hs6M1-35P		yes	FL
454	OR7G1P	H38g30 3			OR19-15		yes	FL
455	OR7G2	H38g30 4		OST260			yes	FL

SEQ ID #	Symbol	HORDE	Digi	OST	Trivial	Tran	Int.	E
456	OR1M1	H38g30 5		OST924	OR19-6		yes	FL
457	OR51UnP	H38g30 6						
458	OR52Hn	H38g30 7					yes	FL
459	OR1F1	H38g30 8		OST925	OLFMF;OR16-36;OR16- 37;OR16-88;OR16- 89;OR16-90	+	yes	FL
460	OR10PnP	H38g30 9						
461	OR4FnP	H38g31 0						FL
462	OR2T1	H38g31 1			OR1-25		yes	FL
463	OR7EnP	H38g31 2						FL
464	OR51Gn	H38g31 3					yes	FL
465	OR2Tn	H38g31 4					yes	FL
466	OR5BGnP	H38g31 5						
467	OR5WnP	H38g31 6						FL
468	OR51Sn	H38g31 7					yes	FL
469	OR5WnP	H38g31 8						
470	OR51AnP	H38g31 9						FL
471	OR5Dn	H38g32 0					yes	FL
472	OR7EnP	H38g32 1						FL
473	OR51Fn	H38g32 2					yes	FL
474	OR5Dn	H38g32 3					yes	FL
475	OR52Rn	H38g32 4					yes	FL

SEQ ID #	Symbol	HORDE	Digi	OST	Trivial	Tran	Int.	E
476	ORnP	H38g32 5						FL
477	OR7EnP	H38g32 6						FL
478	OR6Qn	H38g32 7					yes	FL
479	OR4Fn	H38g32 8					yes	FL
480	OR7EnP	H38g32 9						
481	OR7En	H38g33 0					yes	FL
482	OR4Nn	H38g33 1					yes	FL
483	OR2ASnP	H38g33 2						
484	OR11Hn	H38g33 3					yes	FL
485	OR2Tn	H38g33 4					yes	FL
486	OR2TnP	H38g33 5						
487	OR2AKnP	H38g33 6						FL
488	ORnP	H38g33 7						
489	OR5DnP	H38g33 8						FL
490	OR7EnP	H38g33 9						
491	OR5L2	H38g34 0			HSHTPCR16	+	yes	FL
492	OR5Dn	H38g34 1					yes	FL
493	ORnP	H38g34 2						
494	OR10Qn	H38g34 3					yes	FL
495	OR9MnP	H38g34 4						

SEQ ID #	Symbol	HORDE	Digi	OST	Trivial	Tran	Int.	E
496	OR7E62P	H38g34 5		OST926	OR2-4;OR2-52;OR2- 53;OR2-75			FL
497	OR9LnP	H38g34 6						FL
498	OR7E46P	H38g34 7		OST379				FL
499	OR1S1	H38g34 8		OST034			yes	FL
500	OR5DnP	H38g34 9						
501	OR9InP	H38g35 0						FL
502	OR5Dn	H38g35 1					yes	FL
503	OR9QnP	H38g35 2						FL
504	OR51CnP	H38g35 3						
505	OR5WnP	H38g35 4						
506	OR9InP	H38g35 5						FL
507	OR51AnP	H38g35 6						FL
508	OR5L1	H38g35 7		OST262			yes	FL
509	OR7EnP	H38g35 8				+		
510	OR5BLnP	H38g35 9						
511	OR51En	H38g36 0					yes	FL
512	OR51Dn	H38g36 1					yes	FL
513	OR52In	H38g36 2					yes	FL
514	OR4KnP	H38g36 3	DS67			+		FL
515	OR52In	H38g36 4					yes	FL

SEQ ID #	Symbol	HORDE	Digi	OST	Trivial	Tran	Int.	E
516	OR4KnP	H38g36 5						FL
517	OR52MnP	H38g36 6						FL
518	ORnP	H38g36 7						
519	ORnP	H38g36 8						
520	ORnP	H38g36 9						FL
521	ORnP	H38g37 0						
522	ORnP	H38g37 1						
523	ORnP	H38g37 2						
524	ORnP	H38g37 3						
525	ORnP	H38g37 4						
526	OR6Pn	H38g37 5					yes	FL
527	OR7EnP	H38g37 6						FL
528	ORnP	H38g37 7						
529	OR7EnP	H38g37 8						FL
530	ORnP	H38g37 9						
531	OR10XnP	H38g38 0						FL
532	OR10Zn	H38g38 1					yes	FL
533	OR6KnP	H38g38 2						FL
534	OR6Kn	H38g38 3					yes	FL
535	OR1FnP	H38g38 4						

SEQ ID #	Symbol	HORDE	Digi	OST	Trivial	Tran	Int.	E
536	OR1ABnP	H38g38 5						
537	OR52MnP	H38g38 6						FL
538	OR1XnP	H38g38 7						FL
539	OR4FnP	H38g38 8						
540	OR52MnP	H38g38 9						FL
541	OR2Vn	H38g39 0					yes	FL
542	OR2V1P	H38g39 1		OST265				FL
543	OR2Zn	H38g39 2					yes	FL
544	OR52KnP	H38g39 3				+		
545	OR10Hn	H38g39 4					yes	FL
546	OR2Dn	H38g39 5					yes	FL
547	OR7EnP	H38g39 6						
548	OR11GnP	H38g39 7						FL
549	ORnP	H38g39 8						
550	OR11Gn	H38g39 9					yes	FL
551	OR11HnP	H38g40 0						FL
552	OR6Kn	H38g40 1					yes	FL
553	OR11Hn	H38g40 2					yes	FL
554	OR6KnP	H38g40 3						
555	OR11HnP	H38g40 4						FL

SEQ ID #	Symbol	HORDE	Digi	OST	Trivial	Tran	Int.	E
556	OR6KnP	H38g40 5						FL
557	OR6Kn	H38g40 6					yes	FL
558	OR2Ln	H38g40 7					yes	FL
559	OR4GnP	H38g40 8						
560	OR6Nn	H38g40 9					yes	FL
561	OR2LnP	H38g41 0						
562	OR9A1	H38g41 1			HSHTPCR06			
563	OR6Nn	H38g41 2					yes	FL
564	OR10Hn	H38g41 3					yes	FL
565	OR7EnP	H38g41 4						FL
566	OR2AQnP	H38g41 5						
567	OR2LnP	H38g41 6						FL
568	OR5ARn	H38g41 7					yes	FL
569	OR7EnP	H38g41 8						FL
570	OR10AAn P	H38g41 9						FL
571	OR10JnP	H38g42 0						FL
572	OR5A1P	H38g42 1	DS69;D S71;DS 128;DS 129	OST181		+	yes	FL
573	OR2AHnP	H38g42 2						FL
574	OR10JnP	H38g42 3						FL
575	OR56BnP	H38g42						FL

SEQ ID #	Symbol	HORDE	Digi	OST	Trivial	Tran	Int.	E
		4						
576	OR5M1	H38g42 5		OST050			yes	FL
577	OR52WnP	H38g42 6						
578	OR5AMnP	H38g42 7						FL
579	OR52BnP	H38g42 8						FL
580	OR5MnP	H38g42 9						FL
581	OR5APnP	H38g43 0						FL
582	OR56Bn	H38g43 1					yes	FL
583	OR5APn	H38g43 2					yes	FL
584	OR52Bn	H38g43 3					yes	FL
585	OR9Gn	H38g43 4					yes	FL
586	OR52Kn	H38g43 5					yes	FL
587	OR5MnP	H38g43 6						FL
588	OR52Kn	H38g43 7					yes	FL
589	OR52KnP	H38g43 8				+		FL
590	OR52BnP	H38g43 9						FL
591	OR2B6P	H38g44 0			OR6-31		yes	FL
592	OR2WnP	H38g44 1						FL
593	OR2AnP	H38g44 2						FL
594	ORnP	H38g44 3						
595	OR2LnP	H38g44 4						

SEQ ID #	Symbol	HORDE	Digi	OST	Trivial	Tran	Int.	E
596	OR2W2P	H38g44 5	DS148		dJ313I6.2;hs6M1-30P	+		FL
597	OR2LnP	H38g44 6						
598	OR2B7P	H38g44 7			dJ313I6.3;hs6M1-31P			FL
599	OR2Ln	H38g44 8					yes	FL
600	OR5BFn	H38g44 9					yes	FL
601	OR2LnP	H38g45 0						FL
602	OR7EnP	H38g45 1						
603	OR1H1	H38g45 2	DS122	OST26		+		FL
604	ORnP	H38g45 3						
605	OR4Dn	H38g45 4					yes	FL
606	OR1Ln	H38g45 5					yes	FL
607	OR5AXn	H38g45 6					yes	FL
608	OR5An	H38g45 7					yes	FL
609	OR5AYn	H38g45 8					yes	FL
610	OR13Gn	H38g45 9					yes	FL
611	OR5BBnP	H38g46 0						
612	OR9GnP	H38g46 1						FL
613	OR2TnP	H38g46 2						FL
614	ORnP	H38g46 3						FL
615	OR1Jn	H38g46 4				+	yes	FL

SEQ ID #	Symbol	HORDE	Digi	OST	Trivial	Tran	Int.	E
616	OR2CnP	H38g46 5						FL
617	OR9GnP	H38g46 6						FL
618	OR2C1	H38g46 7			OLFmf3	+	yes	FL
619	OR51AnP	H38g46 8						
620	OR9Gn	H38g46 9					yes	FL
621	OR52Bn	H38g47 0					yes	FL
622	OR1K1	H38g47 1			hg99		yes	FL
623	OR51RnP	H38g47 2						FL
624	OR7EnP	H38g47 3						FL
625	OR52PnP	H38g47 4						FL
626	OR7EnP	H38g47 5						FL
627	OR7EnP	H38g47 6						
628	OR4KnP	H38g47 7	DS66		OR21-1	+		FL
629	OR4KnP	H38g47 8			OR21-2			FL
630	OR7EnP	H38g47 9						
631	OR51In	H38g48 0					yes	FL
632	OR51In	H38g48 1					yes	FL
633	OR2AnP	H38g48 2						
634	OR2A2	H38g48 3		OST008				FL
635	OR2AnP	H38g48 4						FL

SEQ ID #	Symbol	HORDE	Digi	OST	Trivial	Tran	Int.	E
636	OR2Gn	H38g48 5					yes	FL
637	OR2AnP	H38g48 6						
638	OR6Fn	H38g48 7	DS20;D S21;DS 23;DS2 7;DS28 ;DS39; DS40;D S113;D S126;D S135;D S137;D S138;D S139;D S140;D S141;D S145			+	yes	FL
639	OR2AnP	H38g48 8						
640	OR2Gn	H38g48 9					yes	FL
641	OR7E37P	H38g49 0			hg533	+		FL
642	OR5AVn	H38g49 1	DS4;DS 6;DS11			+	yes	FL
643	OR2AJnP	H38g49 2						FL
644	OR13EnP	H38g49 3						FL
645	OR2Cn	H38g49 4					yes	FL
646	OR2TnP	H38g49 5						
647	OR2WnP	H38g49 6						
648	OR13Jn	H38g49 7					yes	FL
649	OR6RnP	H38g49 8						FL
650	OR5ATn	H38g49 9					yes	FL

SEQ ID #	Symbol	HORDE	Digi	OST	Trivial	Tran	Int.	E
651	OR2Zn	H38g50 0					yes	FL
652	OR4Ln	H38g50 1					yes	FL
653	OR4UnP	H38g50 2						FL
654	OR4Fn	H38g50 3					yes	FL
655	OR4FnP	H38g50 4						FL
656	OR4Fn	H38g50 5					yes	FL
657	OR4Fn	H38g50 6					yes	FL
658	OR4AnP	H38g50 7						FL
659	OR4LnP	H38g50 8						FL
660	OR7E33P	H38g50 9		OST927	hg688			FL
661	OR2Cn	H38g51 0					yes	FL
662	OR4Kn	H38g51 1					yes	FL
663	OR5U1	H38g51 2			bA150A6.4;hs6M1-28		yes	FL
664	OR4Kn	H38g51 3					yes	FL
665	OR5V1	H38g51 4			bA150A6.2;hs6M1-21		yes	FL
666	OR4QnP	H38g51 5						FL
667	OR12D3	H38g51 6			bA150A6.1;hs6M1-27		yes	FL
668	OR4Kn	H38g51 7					yes	FL
669	OR51CnP	H38g51 8						
670	OR1J2	H38g51 9		OST044	hg152		yes	FL

SEQ ID #	Symbol	HORDE	Digi	OST	Trivial	Tran	Int.	E
671	OR5BJnP	H38g52 0						
672	OR1J1	H38g52 1	DS130	OST928	hg32	+	yes	FL
673	OR13En	H38g52 2					put	
674	OR4KnP	H38g52 3	DS1			+		FL
675	OR1LnP	H38g52 4						
676	OR2CnP	H38g52 5						
677	OR4TnP	H38g52 6						FL
678	OR5BnP	H38g52 7						
679	OR4Kn	H38g52 8					yes	FL
680	OR11Ln	H38g52 9					yes	FL
681	OR7E68P	H38g53 0		OST929	OR912-108;OR912- 109;OR912-110;OR912- 46;hg523;hg674			FL
682	OR7EnP	H38g53 1						FL
683	OR7E31P	H38g53 2		OST016;O ST205				FL
684	OR7EnP	H38g53 3						FL
685	OR5AKnP	H38g53 4						FL
686	OR5AKn	H38g53 5					yes	FL
687	OR5AKn	H38g53 6					yes	FL
688	OR5BQnP	H38g53 7						
689	OR1Nn	H38g53 8	DS136; DS142			+	yes	FL
690	OR1J4	H38g53 9		OST930	HSHTPCR01	+	yes	FL

SEQ ID #	Symbol	HORDE	Digi	OST	Trivial	Tran	Int.	E
691	OR1Nn	H38g54 0					yes	FL
692	OR2AnP	H38g54 1						FL
693	OR2ANnP	H38g54 2						
694	OR5K1	H38g54 3			HSHTPCR10	+	yes	FL
695	OR2K2	H38g54 4			HSHTPCR06		yes	FL
696	OR8Hn	H38g54 5					yes	FL
697	ORnP	H38g54 6						
698	OR4AnP	H38g54 7						
699	OR4An	H38g54 8					yes	FL
700	OR6Sn	H38g54 9					yes	FL
701	OR4RnP	H38g55 0						
702	OR13Cn	H38g55 1					yes	FL
703	OR13DnP	H38g55 2						FL
704	OR7EnP	H38g55 3						FL
705	OR10PnP	H38g55 4						FL
706	OR8In	H38g55 5					yes	FL
707	OR8G1	H38g55 6			HSTPCR25	+	put	
708	ORnP	H38g55 7						
709	OR5F1	H38g55 8			OR11-10		yes	FL
710	OR5FnP	H38g55 9						FL

SEQ ID #	Symbol	HORDE	Digi	OST	Trivial	Tran	Int.	E
711	OR6BnP	H38g56 0						FL
712	OR2D1	H38g56 1			hg27		put	
713	OR5ASn	H38g56 2					yes	FL
714	OR5SnP	H38g56 3						FL
715	OR5AQnP	H38g56 4						
716	OR6BnP	H38g56 5						FL
717	OR5JnP	H38g56 6						FL
718	OR9AnP	H38g56 7						FL
719	OR5BEnP	H38g56 8						FL
720	OR9An	H38g56 9					yes	FL
721	OR8Hn	H38g57 0					yes	FL
722	OR5BNnP	H38g57 1						
723	OR8Jn	H38g57 2					yes	FL
724	OR9NnP	H38g57 3						
725	OR7EnP	H38g57 4						FL
726	OR7E9P	H38g57 5		OST289				FL
727	OR8KnP	H38g57 6						
728	OR2AnP	H38g57 7						
729	OR8Kn	H38g57 8					yes	FL
730	OR7E39P	H38g57 9		OST931	hg611			

SEQ ID #	Symbol	HORDE	Digi	OST	Trivial	Tran	Int.	E
731	OR7E27P	H38g58 0		OST932	hg616			
732	OR2Hn	H38g58 1					put	
733	OR13CnP	H38g58 2						FL
734	OR13Cn	H38g58 3					yes	FL
735	OR2S1P	H38g58 4		OST611				FL
736	OR2AMnP	H38g58 5						
737	OR1N1	H38g58 6		OST933	OR1-26		put	
738	OR2S2	H38g58 7		OST715			yes	FL
739	OR7E26P	H38g58 8			OR1-51;OR1-72;OR1-73;OR912-95			
740	OR1F11	H38g58 9			hg91		put	
741	OR5ACnP	H38g59 0						FL
742	OR5B10P	H38g59 1			OR13-34;OR13-64;OR13-67			
743	OR2AnP	H38g59 2						FL
744	OR1E5	H38g59 3	DS117; DS143		OR13-66	+	put	
745	OR4Fn	H38g59 4					yes	FL
746	OR5CnP	H38g59 5						
747	OR2WnP	H38g59 6						
748	OR2L2	H38g59 7			HSHTPCRHO7	+	put	
749	OR4H8P	H38g59 8			OR14-58			
750	OR5D10P	H38g59 9			OR912-94			

SEQ ID #	Symbol	HORDE	Digi	OST	Trivial	Tran	Int.	E
751	OR7A12P	H38g60 0			OR14-11;OR14-59			
752	OR2L1	H38g60 1			HSHTPCR02	+	put	
753	OR2F3P	H38g60 2			OR14-60		put	
754	OR4H10P	H38g60 3		OST934	OR15-69;OR15- 80;OR15-81			
755	OR5H1	H38g60 4			HSHTPCR14	+	put	
756	OR2K1	H38g60 5			HSHTPCR17	+	put	
757	OR7E11P	H38g60 6			OR11-2			
758	OR7A3P	H38g60 7		OST935	OR11-7b			
759	OR6A1	H38g60 8			OR11-55	+	yes	FL
760	OR5I1	H38g60 9			OLF1	+	yes	FL
761	OR2H3	H38g61 0			HUMORLMHC	+	yes	FL
762	OR10J1	H38g61 1	DS3;DS 14		HSHGMP07J	+	yes	FL
763	OR7E3P	H38g61 2			OR11-9			
764	OR1D6P	H38g61 3			OR11-13;OR11-22			
765	OR5D10P	H38g61 4			OR18-17;OR18- 42;OR18-43;OR18-44			
766	OR5D5P	H38g61 5			OR18-79;OR912-47			
767	OR52A1	H38g61 6			HPFH1OR	+	yes	FL
768	OR2AEn	H38g61 7					yes	FL
769	OR6LnP	H38g61 8						FL
770	OR6LnP	H38g61 9						FL

SEQ ID #	Symbol	HORDE	Digi	OST	Trivial	Tran	Int.	E
771	OR7MnP	H38g62 0						
772	OR13Cn	H38g62 1					yes	FL
773	OR13Cn	H38g62 2					yes	FL
774	OR2InP	H38g62 3				+		
775	OR4An	H38g62 4					yes	FL
776	OR2InP	H38g62 5				+		
777	OR4AnP	H38g62 6						FL
778	OR4AnP	H38g62 7						FL
779	OR8C1P	H38g62 8			OR11-175			
780	OR4AnP	H38g62 9						FL
781	OR7E15P	H38g63 0			OR11-392			
782	OR10A1	H38g63 2			OR11-403		put	
783	OR2An	H38g63 3				+	put	
784	OR7EnP	H38g63 4				+		FL
785	OR7En	H38g63 5				+	put	
786	OR51A1P	H38g63 6			HPFH6OR	+		FL
787	OR7E47P	H38g63 7			HSORBPL41; bpl41-16	+		FL
788	OR5B5P	H38g63 8			OR3-144; OR912-92			
789	OR1F10	H38g63 9			OR3-145		put	
790	OR8G2	H38g64 0			HSTPCR120	+	put	

SEQ ID #	Symbol	HORDE	Digi	OST	Trivial	Tran	Int.	E
791	OR1Sn	H38g64 1					yes	FL
792	OR4AnP	H38g64 2						FL
793	OR4AnP	H38g64 3						FL
794	OR4AnP	H38g64 4						FL
795	OR4AnP	H38g64 5						FL
796	OR4AnP	H38g64 6						FL
797	OR4AnP	H38g64 7						FL
798	OR4An	H38g64 8					yes	FL
799	OR4An	H38g64 9					yes	FL
800	OR7E42P	H38g65 0		OST001				
801	OR2M3P	H38g65 1		OST003				
802	OR4H11P	H38g65 2			OR4-114;OR4-115;OR4-119			
803	OR7E57P	H38g65 3		OST007				
804	OR2B1P	H38g65 4			OR5-40;OR5-41		put	
805	OR7E34P	H38g65 5		OST011				
806	OR7E56P	H38g65 6		OST013				
807	OR3AnP	H38g65 7						
808	OR4H5P	H38g65 8			OR5-39;OR5-84			
809	OR1En	H38g65 9	DS47;D S115;D S120;D S121;D S123;D			+	put	

SEQ ID #	Symbol	HORDE	Digi	OST	Trivial	Tran	Int.	E
			S125					
810	OR51CnP	H38g66 0						
811	OR2WnP	H38g66 1						FL
812	OR51B1P	H38g66 2			AF149710			FL
813	OR7E81P	H38g66 3		OST021				
814	OR7E44P	H38g66 4		OST022				
815	OR5B7P	H38g66 5			OR6-55;OR6-57			
816	OR7E36P	H38g66 6		OST024				
817	OR2A5	H38g66 7			OR7-138;OR7-141		put	
818	OR5B1P	H38g66 8		OST936	OR8-122;OR8-123			
819	OR8B8	H38g66 9			HSTPCR85	+	yes	FL
820	OR8B4P	H38g67 0			AC002556-D		yes	FL
821	ORnP	H38g67 1						FL
822	OR8B3	H38g67 2			AC002556-B		yes	FL
823	OR2Bn	H38g67 3					yes	FL
824	OR8B6P	H38g67 4			AC002556-G			FL
825	OR8B5P	H38g67 5			AC002556-A			FL
826	OR4E2	H38g67 6			AE000658-A		yes	FL
827	OR8B7P	H38g67 7			AC002556-F			FL
828	OR11JnP	H38g67 8						FL
829	OR4E1P	H38g67 9			AE000658			FL

SEQ ID #	Symbol	HORDE	Digi	OST	Trivial	Tran	Int.	E
830	OR10DnP	H38g68 0						
831	ORnP	H38g68 1						
832	OR8D2	H38g68 2			AC002556-E		yes	FL
833	OR11InP	H38g68 3						FL
834	OR11JnP	H38g68 4						FL
835	OR10AnP	H38g68 5	DS12;D S65			+		FL
836	OR8C3P	H38g68 6			OR912-106;OR912- 45;pDJ9j14			FL
837	OR2DnP	H38g68 7						FL
838	OR4PnP	H38g68 8						
839	OR7E21P	H38g68 9		OST035	OR4DG			
840	OR2M1	H38g69 0		OST037			put	
841	OR7AnP	H38g69 1						
842	OR5D11P	H38g69 2			OR8-125;OR8-127			
843	OR7E50P	H38g69 3			OR8-126			
844	OR7E45P	H38g69 4		OST049				
845	OR7E77P	H38g69 5		OST060				
846	OR8B2	H38g69 6			AC002556-C		yes	FL
847	OR8D1	H38g69 7		OST004	pDJ9j14		yes	FL
848	OR8B1P	H38g69 8		OST937	OR11-561			FL
849	OR7A1P	H38g69 9		OST938	OLF4p;OR19-3;hg513			FL

SEQ ID #	Symbol	HORDE	Digi	OST	Trivial	Tran	Int.	E
850	OR7E8P	H38g700			OR11-11a;pDJ392a17			FL
851	OR4DnP	H38g701						FL
852	OR7E80P	H38g702		OST939	pDJ392a17			FL
853	OR4DnP	H38g703						FL
854	OR7E10P	H38g704			AC000385-A			FL
855	OR10B1P	H38g705			AC003956-A;OR19-19			FL
856	OR2InP	H38g706				+		
857	OR4Dn	H38g707					yes	FL
858	OR5ACn	H38g708					put	
859	OR2I1	H38g709			AC004179-A;dJ271M21.7;hs6M1-14	+		
860	OR10H1	H38g710			AC004510	+	yes	FL
861	OR7E59P	H38g711		OST119				
862	OR7E28P	H38g712		OST128				
863	OR5B3	H38g713		OST129			put	
864	OR2A6	H38g714		OST182			put	
865	OR6Cn	H38g715					put	
866	OR7E54P	H38g716		OST185				
867	OR7E48P	H38g717		OST193				
868	OR67AnP	H38g718						FL
869	OR4DnP	H38g719						FL

SEQ ID #	Symbol	HORDE	Digi	OST	Trivial	Tran	Int.	E
870	OR4CnP	H38g72 0						FL
871	OR4DnP	H38g72 1						FL
872	OR10H2	H38g72 2			AC004597-A	+	yes	FL
873	OR10H3	H38g72 3			AC004597-B	+	yes	FL
874	OR55CnP	H38g72 4						
875	OR55BnP	H38g72 5						
876	OR52VnP	H38g72 6						FL
877	OR2B3	H38g72 7			OR6- 4;dJ80I19.1;hs6M1-1		yes	FL
878	OR52TnP	H38g72 8						FL
879	OR2J1P	H38g72 9			OR6- 5;dJ80I19.2;hs6M1-4			FL
880	OR52HnP	H38g73 0						FL
881	OR2J3	H38g73 1			OR6- 6;dJ80I19.7;hs6M1-3		yes	FL
882	OR52An	H38g73 2				+	put	
883	OR4Qn	H38g73 3					put	
884	OR52BnP	H38g73 4						FL
885	OR2N1P	H38g73 5	DS9		OR6- 7;dJ80I19.3;hs6M1-2	+		FL
886	OR51EnP	H38g73 6				+		
887	OR2J2	H38g73 7			OR6- 8;dJ80I19.4;hs6M1-6		yes	FL
888	OR2In	H38g73 8				+	put	
889	OR2J4P	H38g73 9			OR6- 9;dJ80I19.5;hs6M1-5			FL

SEQ ID #	Symbol	HORDE	Digi	OST	Trivial	Tran	Int.	E
890	OR7E40P	H38g74 0		OST215				
891	OR2H4P	H38g74 1			OR6- 3;dJ80I19.6;hs6M1-7			FL
892	OR7E52P	H38g74 2		OST245				
893	OR2InP	H38g74 3				+		
894	OR6C1	H38g74 4		OST267			put	
895	OR7E30P	H38g74 5		OST339				
896	OR5BAnP	H38g74 6	DS132			+		
897	OR7H1P	H38g74 7		OST940	CIT-B-440L2			FL
898	OR5B2	H38g74 8		OST073			yes	FL
899	OR5AZnP	H38g74 9						FL
900	OR5Bn	H38g75 0					yes	FL
901	OR52Bn	H38g75 1					yes	FL
902	OR5BnP	H38g75 2						FL
903	OR52Dn	H38g75 3					yes	FL
904	OR7A11	H38g75 4		OST527	CIT-HSP-87m17			FL
905	OR5BnP	H38g75 5						FL
906	OR51AnP	H38g75 6						FL
907	OR7A15P	H38g75 7		OST941	CIT-HSP-87m17;OR19- 1;OR19-134;OR19-146			FL
908	OR7C2	H38g75 8			CIT-HSP-87m17;OR19- 18		yes	FL
909	OR7E23P	H38g75 9		OST942	OR21-3			FL

SEQ ID #	Symbol	HORDE	Digi	OST	Trivial	Tran	Int.	E
910	OR2E1	H38g76 0			HS29K1;HSNH0569I24;h s6M1-9			
911	OR1I1	H38g76 1			F20569;OR19-20		yes	FL
912	OR1RnP	H38g76 2						FL
913	OR4F3	H38g76 3			AC004908		yes	FL
914	OR2AEn	H38g76 4					yes	FL
915	OR2InP	H38g76 5				+		
916	OR52AnP	H38g76 6				+		
917	OR7C1	H38g76 7		OST943	CIT-HSP-146e8;OR19- 5;TPCR86	+	yes	FL
918	OR2A3P	H38g76 8			AC004889-B			FL
919	OR7A5	H38g76 9	DS8;DS 19;DS6 1;DS68 ;DS112	OST944	HTPCR2	+	yes	FL
920	OR2InP	H38g77 0	DS72			+		
921	OR7A10	H38g77 1		OST027	CIT-HSP-146e8		yes	FL
922	OR2An	H38g77 2				+	put	
923	OR2M2	H38g77 3		OST423			put	
924	OR7A8P	H38g77 4		OST042	OR19-11;hg83			FL
925	OR2An	H38g77 5				+	put	
926	OR7E20P	H38g77 6		OST516				
927	OR2AnP	H38g77 7				+		
928	OR5BHnP	H38g77 8				+		
929	OR1En	H38g77					put	

SEQ ID #	Symbol	HORDE	Digi	OST	Trivial	Tran	Int.	E
		9						
930	OR1EnP	H38g78 0						
931	OR5Bn	H38g78 1					yes	FL
932	OR8RnP	H38g78 2						
933	OR5ANn	H38g78 3					yes	FL
934	OR5ANnP	H38g78 4						FL
935	OR5BRnP	H38g78 5						FL
936	OR2A1	H38g78 6			AC004889-A	+	yes	FL
937	OR10An	H38g78 7					yes	FL
938	OR2A9	H38g78 8	DS149		HSDJ0798C17	+		FL
939	OR2A7	H38g78 9			HSDJ0798C17	+	yes	FL
940	OR10A3	H38g79 0			HSHTPCR12	+	yes	FL
941	OR10Cn	H38g79 1					yes	FL
942	OR7A2P	H38g79 2			OLF4p;OR19-18;hg1003		yes	FL
943	OR10WnP	H38g79 3						FL
944	OR7A17	H38g79 4			HSHTPCR19		yes	FL
945	OR5Bn	H38g79 5					yes	FL
946	OR5BnP	H38g79 6						FL
947	OR1Q1	H38g79 7		OST226	HSTPCR106;OR9- A;hRPK-465_F_21	+	yes	FL
948	OR2Hn	H38g79 8	DS133; DS144; DS150			+	yes	FL
949	OR7EnP	H38g79						FL

SEQ ID #	Symbol	HORDE	Digi	OST	Trivial	Tran	Int.	E
		9						
950	OR7A14	H38g80 0		OST945	OR19-12			
951	OR1B1	H38g80 1			OR9-B;hrPK-465_F_21		yes	FL
952	OR12D2	H38g80 2			AC004171;dJ994E9.8;h s6M1-20	+	yes	FL
953	OR7EnP	H38g80 3						FL
954	OR8BnP	H38g80 4						FL
955	OR1L1	H38g80 5			OR9-C;hrPK- 465_F_21;hg23		yes	FL
956	OR11An	H38g80 6					yes	FL
957	OR7AnP	H38g80 7						
958	OR1C1	H38g80 8			HSTPCR27	+	yes	FL
959	OR1D2	H38g80 9		OST946	OR17-4	+	yes	FL
960	OR1L3	H38g81 0			OR9-D;hrPK-465_F_21		yes	FL
961	OR12DnP	H38g81 1						FL
962	OR4G1P	H38g81 2			OLB			FL
963	OR2B4P	H38g81 3			AL050339- A;dJ974I11.1;hs6M1- 22			
964	OR11H1	H38g81 4			OR22-1		yes	FL
965	OR4Fn	H38g81 5					yes	FL
966	OR56AnP	H38g81 6						FL
967	OR8NnP	H38g81 7						FL
968	OR7EnP	H38g81 8						
969	OR4Pn	H38g81					yes	FL

SEQ ID #	Symbol	HORDE	Digi	OST	Trivial	Tran	Int.	E
		9						
970	OR6Cn	H38g82 0					put	
971	OR5BCnP	H38g82 1						
972	OR10QnP	H38g82 2	DS64			+		FL
973	OR5BnP	H38g82 3						FL
974	OR10PnP	H38g82 4						FL
975	OR1L4	H38g82 5		OST046	OR9-E;hRPK-465_F_21		yes	FL
976	OR2APnP	H38g82 6						
977	OR1L6	H38g82 7		OST947	HShRPK-465_F_21;hg16		yes	FL
978	OR6UnP	H38g82 8						FL
979	OR5C1	H38g82 9			OR9-F;hRPK-465_F_21		yes	FL
980	OR11InP	H38g83 0						FL
981	OR4AnP	H38g83 1						FL
982	OR4GnP	H38g83 2						FL
983	OR10Vn	H38g83 3					yes	FL
984	OR4G2P	H38g83 4			HS14a-1-B			FL
985	OR10VnP	H38g83 5				+		
986	OR4F4	H38g83 6			HS14a-1-A		yes	FL
987	OR4G3P	H38g83 7			OLC-7501			FL
988	OR5AKnP	H38g83 8						FL
989	OR10YnP	H38g83 9						FL

SEQ ID #	Symbol	HORDE	Digi	OST	Trivial	Tran	Int.	E
990	OR4GnP	H38g84 0						FL
991	ORnP	H38g84 1						
992	OR4Fn	H38g84 2					yes	FL
993	OR8A1	H38g84 3		OST025			yes	FL
994	OR8Bn	H38g84 4					yes	FL
995	OR6DnP	H38g84 5						
996	OR7E14P	H38g84 6		OST948	OR11-5	+		FL
997	OR2M4	H38g84 7		OST710	HSHTPCRX18	+	put	
998	OR4WnP	H38g84 8						
999	OR4Fn	H38g84 9	DS36			+	yes	FL
1000	OR7EnP	H38g85 0						
1001	OR4GnP	H38g85 1						FL
1002	OR10JnP	H38g85 2						
1003	OR52En	H38g85 3					yes	FL
1004	OR4RnP	H38g85 4						FL
1005	OR4Cn	H38g85 5					yes	FL
1006	OR4AnP	H38g85 6						
1007	OR4AnP	H38g85 7	DS54			+		
1008	OR4AnP	H38g85 8						FL
1009	OR9Gn	H38g85 9					yes	FL

SEQ ID #	Symbol	HORDE	Digi	OST	Trivial	Tran	Int.	E
1010	OR10An	H38g86 0					yes	FL
1011	OR4Cn	H38g86 1					yes	FL
1012	OR10VnP	H38g86 2						
1013	OR10UnP	H38g86 3						FL
1014	OR7E2P	H38g86 4	DS127		OR11-6;hg94	+		FL
1015	OR7E35P	H38g86 5		OST018				FL
1016	OR9KnP	H38g86 6						
1017	OR7E13P	H38g86 7		OST949	OR11-4			FL
1018	OR7EnP	H38g86 8						FL
1019	OR9Kn	H38g86 9					yes	FL
1020	ORnP	H38g87 0						FL
1021	OR7EnP	H38g87 1		OST950	OR11-1;hg500	+		FL
1022	OR7EnP	H38g87 2						FL
1023	OR3A4P	H38g87 3		OST951	OR17-24;OR17-25	+	yes	FL
1024	OR8QnP	H38g87 4						
1025	OR7EnP	H38g87 5						FL
1026	OR7EnP	H38g87 6						FL
1027	OR3A1	H38g87 7	DS2		OLFRA03;OR17- 40;hg138	+	yes	FL
1028	OR5Gn	H38g87 8					yes	FL
1029	OR5MnP	H38g87 9						

SEQ ID #	Symbol	HORDE	Digi	OST	Trivial	Tran	Int.	E
1030	OR7EnP	H38g88 0						FL
1031	OR5G1P	H38g88 1		OST952	OR11- 104;OR93;OR93Hum			FL
1032	OR5PnP	H38g88 2						FL
1033	OR10AEn P	H38g88 3						
1034	OR3A2	H38g88 4		OST953	OR17-228	+	yes	FL
1035	OR10Jn	H38g88 5					yes	FL
1036	OR1D3P	H38g88 6		OST954	OR17-23			FL
1037	OR10Jn	H38g88 7					yes	FL
1038	OR1D4	H38g88 8			OR17-30	+	yes	FL
1039	OR5GnP	H38g88 9						FL
1040	OR4SnP	H38g89 0						FL
1041	OR5GnP	H38g89 1						FL
1042	OR9HnP	H38g89 2						FL
1043	OR1A1	H38g89 3			OR17-7	+	yes	FL
1044	OR1A2	H38g89 4			OR17-6	+	yes	FL
1045	OR8AnP	H38g89 5						FL
1046	OR1P1P	H38g89 6			OR17-208	+		FL
1047	OR7E12P	H38g89 7		OST955	AC000378-A;OR11- 3;hg1058	+		FL
1048	OR4A1P	H38g89 8			OR11-30			FL
1049	OR10G3	H38g89 9			AE000658-D		yes	FL

SEQ ID #	Symbol	HORDE	Digi	OST	Trivial	Tran	Int.	E
1050	OR10G1P	H38g90 0			AE000658-C			FL
1051	OR10G2	H38g90 1			AE000658-B		yes	FL
1052	OR5Tn	H38g90 2					yes	FL
1053	OR7EnP	H38g90 3						FL
1054	OR7EnP	H38g90 4						FL
1055	OR4AnP	H38g90 5						FL
1056	OR4C1	H38g90 6			HSHTPCR11	+		FL
1057	OR1EnP	H38g90 7						
1058	OR7KnP	H38g90 8						FL
1059	OR4CnP	H38g90 9						FL
1060	OR1RnP	H38g91 0						FL
1061	OR5AUn	H38g91 1					yes	FL
1062	OR4Cn	H38g91 2					yes	FL
1063	OR4Cn	H38g91 3					yes	FL
1064	OR13DnP	H38g91 4						FL
1065	OR5n	H38g91 5	DSU116			+		
1066	OR2Hn	H38g91 6	DSU150			+		
1067	ORn	H38g91 7	DSU151			+	put	
1068	ORn	H38g91 8	DSU17			+		
1069	ORn	H38g91 9	DSU18			+		

SEQ ID #	Symbol	HORDE	Digi	OST	Trivial	Tran	Int.	E
1070	ORn	H38g92 0	DSU35			+		
1071	OR6Fn	H38g92 1	DSU41			+		
1072	ORn	H38g92 2	DSU49			+		
1073	ORn	H38g92 3	DSU50			+		
1074	OR10An	H38g92 4	DSU57			+		
1075	ORn	H38g92 5	DSU58			+		
1076	OR2Ln	H38g92 6	DSU59			+		
1077	OR10Jn	H38g92 7	DSU60			+		
1078	OR1Kn	H38g92 8	DSU63			+		
1079	OR10Dn	H38g92 9	DSU7			+		
1080	ORn	H38g93 0	DSU32			+		
1081	OR2Ln	H38g93 1	DSU38			+		
1082	ORn	H38g93 2	DSU62			+		
1083	ORn	H38g93 3	DSU48			+		
1084	OR2n	H38g93 4	DSU111			+		

Table 2

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SEQ ID #	Symbol	D	C	Mb coord	CDR	%	S	Acc	Range
153	OR10D3	0	11	137.96	.....SDVISV	69	M	AC074177.4	12106 ... 13038
154	OR7EnP	4	4	11.58	MVACGVLDLHIIDSFAL	53	R	AF091580.1	7 ... 663
155	OR1D5	0	17	3.75	LVVTNLLYLLLLTGIFT	49	M	AF073967.1	2 ... 649

SEQ ID #	Symbol	D	C	Mb coord	CDR	%	S	Acc	Range
156	OR10Nn P	4	11	138.02	LQGSGVVHILFGNVLAT	82	M	AC074177.4	159287 ... 158526
157	OR2F1	0	7	148.62	LLGGFTSSVQIISLLT	56	M	AF073974.1	41 ... 649
158	OR7EnP	7	4	11.58	MAGGELLDLHILPALGL	54	M	AF073989.1	547 ... 1515
159	OR8FnP	6	11	137.96	LLVICEMGAHCVC SNIF	75	M	AC069561.1 0	51687 ... 50743
160	OR2Q1P	2	7	148.62	LLCGFSANMEIVSGVIL	49	M	AC020865.3	190954 ... 189954
161	OR2W1	0	6	33.74	LMGSCMINVLLVLGIVT	88	M	AF102516.1	52 ... 669
162	OR7EnP	7	4	11.58	MVACGVLDLHITHSFGI	53	R	AF091580.1	7 ... 663
163	OR6B1	0	7	148.62	LIMCCGIIAKFDLAIFF	61	M	NM_010983. 1	178 ... 975
164	OR10Kn	0	1	154.34	MLGSSACVVTILGALI	79	M	AC073778.1	168744 ... 167803
165	ORnP	13	11	138.02	VPYCIGGHLICLSLSS	33	M	AC074177.4	12106 ... 13038
166	OR4F2P	4	6	186.49	IHGGMVLHFQFVNSICG	50	M	AB030896.1	1 ... 906
167	OR7EnP	3	4	11.58	MVACGVLDLHIIDSFGI	54	M	AF102536.1	22 ... 669
168	OR1F2P	0	16	6.15	MSADNGVNHLHIEAVTT	72	R	M64377.1	1 ... 939
169	OR2P1P	7	6	33.74	FGGSCMSNQSALVRXSV	48	M	NM_008762. 1	1 ... 936
170	OR7E43 P	5	4	5.57	MAGGELFDLHIMPAFGL	54	M	AF102536.1	22 ... 669
171	OR4F1	4	6	0.23	IHGGMVLHFQFVNSICG	50	M	AB030896.1	1 ... 906
172	OR7E55 P	5	3	89.94	MAGDEFDLHILPAFGL	53	M	AF073989.1	547 ... 1515
173	OR13Dn	0	9	86.89	MLGSCWITLQLMTNSLI	61	M	AC023789.5	371264 ... 372220
174	OR4CnP	3	16		AHGAIVGHIQFVNSICL	74	M	AF102522.1	40 ... 660
175	OR10D1 P	1	11	137.96	LHGCGGFQFLLGSVMPS	83	M	AC074177.4	128803 ... 129726
176	OR4Cn	0	16		LHGGIVGHVQLVNSICL	86	M	AB030895.1	1 ... 924

SEQ ID #	Symbol	D	C	Mb coord	CDR	%	S	Acc	Range
177	OR8GnP	0	11	137.96	LSAICGLGIHFVLSNIM	73	M	AC074177.4	106297 ... 105361
178	OR13CnP	2	9	86.85	MFGACGGNLQLMASFLG	82	M	AJ251154.1	2703 ... 1747
179	OR4CnP	5	16		LHEAIVLHIQFINSCL	61	M	AF102522.1	40 ... 660
180	OR13Cn	0	9	86.81	MLGTCGINVQFMATFIT	69	M	AJ133425.1	61 ... 1014
181	OR4CnP	0	16		LHGGIMGHIQLVNSMCL	63	M	AB030895.1	1 ... 924
182	OR51Bn	0	11		AHSVSGRSPVRPLITIL	76	M	AF071080.2	15931 ... 16851
183	OR7E5P	2	11	51.76	MVACDVLDLHIIDSFGL	54	M	AF073989.1	547 ... 1515
184	OR13Cn	0	9	86.77	MFGSCVSNVQLMSNFL	71	M	AJ251154.1	2703 ... 1747
185	OR4Sn	0	16		LHGGIAAHLQLVNSISA	56	M	AB030895.1	1 ... 924
186	OR51BnP	4	11		VHYPEWRSPPPPLVIFL	72	M	AF071080.2	15931 ... 16851
187	OR6JnP	1	14	2.72	CFGTFFGSFPLDLVIC	50	R	M64378.1	1 ... 933
188	OR51Bn	0	11		SHAISGRSPISPQTTVL	76	M	AF071080.2	26330 ... 27262
189	OR7EnP	2	11	71.8	MFACGVLDLHIIDSFGL	55	M	AF102536.1	22 ... 669
190	OR2An	0	6	144.32	TSAVCTTLIHLVGAGLG	81	M	L14566.1	62 ... 667
191	OR7E22P	3	3	89.94	MVACDVLDLHIIDSFGL	56	M	AF073989.1	547 ... 1515
192	OR7E4P	2	11	71.8	IVACDVLDLHIMHSFGL	55	M	AF102536.1	22 ... 669
193	OR7E66P	9	3	89.94	MAGGELLFLHIMPAFGL	55	M	AF073989.1	547 ... 1515
194	OR6Mn	0	11	138.18	TFGTFGGSFPVNLSVIS	50	M	NM_010991.1	1 ... 939
195	OR2ALnP	11	11	112.69	ILGTCASNFDFFNHLLL	32	M	AL359352.1	85325 ... 86251
196	OR6MnP	2	11	138.18	TGGTFGGSCPVNLSILT	50	M	NM_010991.1	1 ... 939
197	OR4D1	0	17	60.7	IHGGVAGHVQLMNSLVI	90	M	AC019272.4	62255 ... 61317
198	OR5D2P	3	11	51.09	LCVVTTWCTLFTSANES	48	M	AC073947.3	29192 ... 30115

SEQ ID #	Symbol	D	C	Mb coord	CDR	%	S	Acc	Range
199	OR7E38P	7	7	95.91	MAGGELFHLHIMPAFGL	55	R	AF091580.1	7 ... 663
200	OR4D2	0	17	60.7	IHGGVAGHVQLKNSLDV	89	M	AC019272.4	183633 ... 182701
201	OR7E7P	4	7	95.91	MIACGVLDLHIIDSFGL	56	R	AF091580.1	7 ... 663
202	OR5AHnP	0	19	68.97	.....RSGIMC	77	M	AC020957.2	48184 ... 49107
203	OR2U2P	5	6	33.53	LVYSCIVNIPYTMCIIV	49	M	AC044846.2	105668 ... 104736
204	OR2U1P	2	6	33.53	LVCTCMINILCCVVIFA	54	M	AF102516.1	52 ... 669
205	OR2H2	0	6	33.19	ILGTCVIEVQSVASILV	89	M	AL078630.1	41097 ... 40165
206	OR2H5P	7	6	33.19	FLGTCVIEVQSMASILV	84	M	AL078630.1	41097 ... 40165
207	OR2In	0	6	33.19	LLGSCASNAQLMARILL	74	M	AL078630.1	151152 ... 150391
208	OR11HnP	5	13		IFNTCLCWIPCLSVIG	60	M	AF121972.1	171 ... 1109
209	OR7EnP	6			AAACDVIDLHITHSFGL	56	M	AF073964.1	41 ... 649
210	OR9In	0	11	54.06	FTAGCGCGLRCIFGVIA	50	R	AF091579.1	7 ... 663
211	OR2AFnP	11	X	140.17	MLGTCGHVTLAGISTLL	43	R	L34074.1	73 ... 1011
212	OR13KnP	5	X	140.17	MFGMCVIIHILGIGTLL	43	R	L34074.1	73 ... 1011
213	OR13Cn	0	9	86.77	MFGSCVSNVQLLSNFL	68	M	AJ251154.1	2703 ... 1747
214	OR13Fn	0	9	86.77	MLGSCGTTVESMISLLM	55	M	AJ133428.1	61 ... 1017
215	OR9Qn	0	11	54.08	FTGSCGASVRSIFAVIA	47	M	AF146372.1	509 ... 1456
216	OR2TnP	1	1	254.77	ILIGFGGDMVMCCMLI	71	M	AF102527.1	22 ... 669
217	OR4Kn	0	14	0.08	IHVGMIVHSHFTNSISS	56	M	AF259072.1	104176 ... 105099
218	OR2B8P	0	6	31.6	LLGSCCTINLQLLVSIIV	62	R	L34074.1	73 ... 1011

SEQ ID #	Symbol	D	C	Mb coord	CDR	%	S	Acc	Range
219	OR2Tn	0	1	254.77	MLAGVALDLLITCCMLT	57	M	AF102527.1	22 ... 669
220	OR4Kn	0	14	0.08	IHTGIAMHSQFMTSIAS	53	M	AF259072.1	104176 ... 105099
221	OR2A4	0	6	144.76	TSAVCTTLIHLVGAGLG	81	M	L14566.1	62 ... 667
222	OR7EnP	6	2	161.53	MVACDVLDLHIIDSFGL	54	R	AF091580.1	7 ... 663
223	OR4Kn	0	14	0.08	MHGGILVHSQFMTSIIV	57	M	AF259072.1	104176 ... 105099
224	OR13InP	6	9	86.85	MYGSCVLNNVIGKTLL	41	M	AJ251155.1	15491 ... 16423
225	OR7EnP	8	2	161.53	MVACDVLDLHIFFDFGL	54	M	AF073989.1	547 ... 1515
226	OR6Jn	0	14	2.72	CFGTFFGSFPLDLSVIC	50	R	M64378.1	1 ... 933
227	OR4Mn	0	14	0.08	LHGAMLGHIQLMSSISV	54	M	AC019272.4	183633 ... 182701
228	OR4VnP	10	11	51.09	IHGIIVLHFQMVNSFAV	50	M	AB030896.1	1 ... 906
229	OR6Xn	0	11	138.36	AFGTFSVICQLGATVIG	46	M	AF106007.1	178 ... 975
230	OR51Gn	0	11	3.7	LHSSSSRLPLLGVVTVV	55	M	NM_013617.1	1 ... 921
231	OR6EnP	3	14	2.72	SFGTFCTLIPLGIASLG	82	M	NM_010991.1	1 ... 939
232	OR4NnP	2	14	0.08	LHGGGAGHIQLMNSMTL	54	M	AC019272.4	62255 ... 61317
233	OR6MnP	7	11	138.18	IFGTFGGARLVXSMTV	37	R	M64378.1	1 ... 933
234	OR4Nn	0	14	0.08	LHGGGAGHIQLMNSMTL	57	M	AC019272.4	62255 ... 61317
235	OR4Cn	0	11	51.09	LHGGIGGHIQFVNSMCA	65	M	AF102522.1	40 ... 660
236	OR4KnP	4	14	0.08	IHAGMGTHSQFMDSMGT	51	M	AF259072.1	104176 ... 105099
237	ORnP	8	11	137.59	AIAITVVVAHAAAGVVA	35	M	AC069559.8	73704 ... 74636
238	OR5D3	0	11	51.15	FCVVTAWCTYFISANES	46	R	U50948.1	34 ... 978
239	OR2G1P	6	6	33.53	LLGSCVSNIQVLASLLL	84	M	AL359352.1	85325 ... 86251

SEQ ID #	Symbol	D	C	Mb coord	CDR	%	S	Acc	Range
240	OR4Kn	0	14	0.08	IHTGMIVHSQFINSLS	51	M	AF259072.1	104176 ... 105099
241	OR8BnP	2	11	137.59	LCVFSGMGAHNVIVGIV	68	M	AC069559.8	120212 ... 119283
242	OR2B2	0	6	31.47	LLGSCASNQWLISFLI	89	R	L34074.1	73 ... 1011
243	OR7EnP	3	2	73.87	MVACDVLRLRIIDSFGL	54	M	AF073989.1	547 ... 1515
244	OR4KnP	3	14	0.08	IHTGIVVHSQFMTSIAI	57	M	AB030896.1	1 ... 906
245	OR2AD1P	6	6	33.87	FLGACTSSIVLVFGFLV	51	M	AL136158.1 4	162423 ... 161461
246	OR1AAnP	8	X	140.17	MIVDNTIVLHLIIGVII	48	M	AC068902.1 1	144125 ... 143193
247	OR1E3P	1	17	2.99	MLGVSLHLHLMMGILI	74	R	M64392.1	1 ... 942
248	OR8BnP	3	11	137.59	FCVFSGMGAHNVIVGIV	63	M	AC069561.1 0	96653 ... 95690
249	OR5Hn	0	3	104.18	FAGTCFGHIHLVLSIQF	55	R	AF091575.1	52 ... 663
250	OR1G1	0	17	2.99	LMVMAAMHLHLITGTGI	56	R	M64392.1	1 ... 942
251	OR5HnP	2	3	104.18	FAVTCGGHIHFVFSIQF	46	M	AC068904.1 5	165039 ... 165965
252	ORnP	5	X	140.17	MLVTCSHHFLSFTGIWS	36	R	U50948.1	34 ... 978
253	ORnP	11	X	140.17	LIVTFAKITTTQDHHHH	29	M	AC069561.1 0	127636 ... 126698
254	OR4PnP	2	11	51.09	LHGDIAGHSQVLNSISL	51	M	AB030895.1	1 ... 924
255	OR13Hn	0	X	140.17	TLATCTTVAMLITSTLL	47	M	AJ251154.1	35662 ... 36615
256	OR7D1P	5	19	11.38	VMAGTAIFVHLLATLGF	64	R	AF091580.1	7 ... 663
257	OR4KnP	2	18	47.77	IHNIGIVVHSQFMTSIAI	55	M	AB030896.1	1 ... 906
258	OR7E24	1	19	11.38	MVACDLIDLHIIMGFGL	60	R	AF091580.1	7 ... 663
259	OR51NnP	2	11	3.6	LHGFSARSPSLGVLVTV	49	R	AF079864.1	632 ... 1576
260	OR7E18P	6	19	11.38	VAGCDLLDLHIMLAFGL	59	M	AF102536.1	22 ... 669

SEQ ID #	Symbol	D	C	Mb coord	CDR	%	S	Acc	Range
261	OR7E19P	2	19	11.38	MYVCDVLNLHIMDSFGL	58	M	AF073989.1	547 ... 1515
262	OR7E41P	7	11	14.36	IVVCDMLDLHIHSTFGL	55	M	AF073989.1	547 ... 1515
263	OR2R1	3	7	148.69	LLGGFVVNMELISSVLV	77	M	AF073974.1	41 ... 649
264	OR10ACnP	7	7	148.69	MVGCGRVGLLLACLLL	46	M	AC073778.1	168744 ... 167803
265	OR51Ln	0	11	3.79	LHTFSARVPTLGVVTLV	54	R	AF079864.1	632 ... 1576
266	OR52JnP	3	11	3.79	MHTGSSRLPILGVALDA	57	M	AF121979.1	53 ... 1106
267	OR9LnP	9	8	45.22	TVVNNFFFFFFFIFDLIA	37	M	AC069561.1 0	147203 ... 146274
268	OR51PnP	4	11	3.79	MHSISARLPALGVVSMML	48	M	AF071080.2	2641 ... 1697
269	OR5HnP	4	3	104.18	FAVTCLGHIHFFFSIQI	50	R	AF091575.1	52 ... 663
270	OR51An	0	11	3.79	EHSVSVKLPFTYFGCLV	48	R	AF079864.1	632 ... 1576
271	OR5HnP	6	3	104.18	FAVTCLGHIHFVFSIQF	46	M	AC068904.1 5	165039 ... 165965
272	ORnP	11	17	17.43	LLPCILSIIALYYYYYY	27	M	AL359352.1	9138 ... 8177
273	OR52En	0	11	3.79	MHTGSARFPFFYCAILF	57	M	AF121979.1	53 ... 1106
274	OR5Hn	0	3	104.18	FVVTCLGHIHFVFAVQF	53	R	AF091575.1	52 ... 663
275	OR4CnP	3	11	50.21	VHRGVVGHIQFVNSICL	73	M	AF102522.1	40 ... 660
276	OR52En	0	11	3.79	MHTLSGRFPSLYCANLF	60	M	AF121979.1	53 ... 1106
277	OR10Dn	0	11	138	LHGCGGIHILLGNVLSI	86	M	AC074177.4	12106 ... 13038
278	OR5HnP	2	3	104.18	FVVTCLGHIHFVFAIQF	54	R	AF091575.1	52 ... 663
279	OR13An	0	10	47.91	LTASLALNIHLIADYGV	67	M	AF102520.1	16 ... 669
280	OR5HnP	2	3	104.18	FGGTCLGHIHILLSIQF	57	R	AF091575.1	52 ... 663

SEQ ID #	Symbol	D	C	Mb coord	CDR	%	S	Acc	Range
281	OR5Kn	0	3	104.47	FCETCGAHIHLLFSVQF	45	M	AC069559.8	36251 ... 35322
282	OR7EnP	9	21	17.99	MAGGELFHLQIMPAFGL	57	M	AF073989.1	547 ... 1515
283	OR4DnP	6	8	77.48	IHGGVAGHVQVMNSLVI	87	M	AC019272.4	62255 ... 61317
284	OR2ARn P	0	3	30.89	MLGSC.....	71	M	AJ251154.1	56533 ... 57369
285	OR7E29 P	4	3	136.03	MAGGELLDLHIMPAFGL	56	M	AF073989.1	547 ... 1515
286	OR4CnP	3	11	51.12	AHGAIVGHIQFVNSICL	74	M	AF102522.1	40 ... 660
287	OR5PnP	2	11	6.93	LVGTCVGNTFCPSSIIV	74	M	AF121977.1	262 ... 1197
288	OR7EnP	5	3	136.04	MVACGVLDLHIIGSFGL	52	R	AF091580.1	7 ... 663
289	OR56An	0	11	4.73	MNLPSFRLPILQAGLLS	41	M	AF121975.1	50 ... 1012
290	OR56An P	9	11	4.73	KNQAFFRMPILQGGLLS	73	M	AF121981.1	89 ... 475
291	OR5Pn	0	11	6.89	LAATCVAISYSLSSIIV	63	M	AF121977.1	262 ... 1197
292	OR7E53 P	5	3	136.04	MAGGEFPDLHIMPAFGL	54	M	AF073989.1	547 ... 1515
293	OR5Pn	0	11	6.89	LVGTCMGNTFCPSSIIA	83	M	AF121977.1	262 ... 1197
294	OR52Ln	0	11	4.73	MHSSSVRLPFLGMAVIL	59	M	AF121976.2	474 ... 1307
295	OR5E1	3	11	6.89	LGATXGYNIQLLFSNLG	51	R	U50948.1	34 ... 978
296	OR56An P	3	11	4.73	MNLASFRMAILPPPPPP	39	M	AF121976.2	474 ... 1307
297	OR4KnP	2	8	88.25	IHTGMIVHSQFIDS...	57	M	AB030896.1	1 ... 906
298	OR52Ln	0	11	4.73	MHSSSVRLPFLGVAVVL	59	M	AF121976.2	474 ... 1307
299	OR7EnP	1	4	74.82	MVF.....	55	R	AF091580.1	7 ... 663
300	OR52Xn P	5	11	4.73	MHSASLXLSFLAVALGG	51	M	AF121976.2	474 ... 1307
301	ORnP	13	4	74.82	STGCKGRKXLKLVRDFQ	24	R	M64386.1	130 ... 975
302	OR56An	0	11	4.73	MNLTSFRVPVLQAGLLS	84	M	AF121981.1	89 ... 475

SEQ ID #	Symbol	D	C	Mb coord	CDR	%	S	Acc	Range
303	OR56An P	10	11	4.73	LI...GMMXNL...KKK	60	M	AF121981.1	89 ... 475
304	OR1R1P	5	17	3	MVGISAVHLHLIEGVVA	48	M	AF073967.1	2 ... 649
305	OR52En P	2	11	3.79	MHTGSGRSPFLYGAILF	64	M	AF121979.1	53 ... 1106
306	OR51An P	4	11	3.7	EHTVALKLPLLGA GSTL	46	R	AF079864.1	632 ... 1576
307	OR51An	0	11	3.7	EHSVSVKLPFTYFGCLV	48	R	AF079864.1	632 ... 1576
308	OR4CnP	1	11	51.12	VHGGVVGHVQFVNSICL	75	M	AF102522.1	40 ... 660
309	OR52Jn P	9	11	3.79	MHTGACRFPILGVVYLN	58	M	AF121979.1	53 ... 1106
310	OR4RnP	9	11	51.12	.....GGGVXSVNGNYL	66	M	AF102522.1	40 ... 660
311	OR52Jn	0	11	3.79	MHTGACRLPMLGVVFN	58	M	AF121976.2	474 ... 1307
312	OR4CnP	3	11	51.12	VHGGGVGHIQFINSICL	76	M	AF102522.1	40 ... 660
313	OR51An P	2	11	3.79	EHSASAKLPFTYFVTGL	83	M	AF121985.1	2 ... 478
314	OR7EnP	15	12	93.55	IVVCDLLDLHIHSTFGL	55	M	AF073989.1	547 ... 1515
315	OR5MnP	2	11	52.17	CIVLHVYLMERMVASNQ	54	M	AF102528.1	52 ... 669
316	OR10AB nP	1	11	6.93	MLASCAVFCITILSVLG	47	M	AC073778.1	168744 ... 167803
317	OR52Sn P	2	11	3.79	MHSTSARLPHLSVATGV	54	M	AF121976.2	474 ... 1307
318	OR5Mn	0	11	52.14	CIVHIFYTAAWMLANFY	49	R	AF091579.1	7 ... 663
319	OR10Sn	0	11	138.1	LHASCIIHIHLMSIVAG	61	M	AF259072.1	32953 ... 32000
320	OR5MnP	4	11	52.14	CIVHIFYTTAWMLANFY	48	R	AF091579.1	7 ... 663
321	OR10Gn	0	11	138.1	LHGSCGSHVQLIDIVAG	61	M	AF259072.1	55611 ... 54658
322	ORnP	20	11	29.15	ILGIYEGSAHYFIILFL	33	M	AL365337.1	192661 ... 191711
323	OR5MnP	2	11	52.19	CIVIYGYSMEWMVANLS	54	M	AF102528.1	52 ... 669

SEQ ID #	Symbol	D	C	Mb coord	CDR	%	S	Acc	Range
324	OR10Gn P	10	11	138.1	LYGSCWGHLPYIVIKFT	30	M	L14567.1	17 ... 667
325	OR10Tn P	1	1	154.34	LVACCACTIVLILSVLV	57	M	X92969.1	8035 ... 8961
326	ORnP	16	11	52.17	LAAPLLLVFVLAaaaaa	33	R	M64376.1	1 ... 999
327	OR10Rn P	11	1	154.5	MLAVFTICVFLIGGALV	47	M	AC023611.2	108224 ... 107271
328	OR5MnP	2	11	52.16	CIVHLVYTMEWMVANFY	49	R	AF091579.1	7 ... 663
329	OR7EnP	4	8	6.68	MLACGVLDLHIIDSFGL	55	M	AF102536.1	22 ... 669
330	OR10Tn	0	1	154.27	LLACCLTIVALLLSVIV	58	M	AC012302.5	54283 ... 55224
331	OR1E1	0	17	3.04	MLGDSLLHLHLIMGILI	83	R	Y07557.1	1 ... 942
332	OR5BKn P	4	12	42.11	STGGAIAIMDFLSQWGL	46	M	AF073965.1	2 ... 643
333	OR5MnP	3	11	52.17	CIVHIVYTMEWMVANLF	48	R	AF091579.1	7 ... 663
334	OR3A3	0	17	3.06	LHAGCACNTHALAAMAA	49	M	AF073967.1	2 ... 649
335	OR10AD nP	1	12	42.11	TFGVCTFNFLIIDAIVS	44	M	AF247657.1	1 ... 945
336	OR10Rn	0	1	154.5	MLAICAGATVLCIGVLV	56	M	AC073778.1	168744 ... 167803
337	OR5TnP	4	11	51.94	MCGTCAAHIAFFVIEV	51	M	AF121977.1	262 ... 1197
338	OR4GnP	15	7	0.23	ICRKMAVHSQFVNSISA	42	M	AB030892.1	1 ... 939
339	OR6Yn	0	1	154.5	LVVCYGCTIKFDLAVII	61	M	NM_010983.1	178 ... 975
340	OR1E2	0	17	3.15	MLSDSLLHLHLIMGILI	80	R	Y07557.1	1 ... 942
341	OR8Hn	0	11	51.94	MVGACGINVNWILATLV	51	M	NM_013728.1	1 ... 948
342	OR4Fn	0	7	0.23	IHGGMVIHSQFVNSLTC	50	M	AC019272.4	62255 ... 61317
343	OR10Kn	0	1	154.27	MLGCSACVIILICVLI	83	M	AC073778.1	168744 ... 167803
344	OR7LnP	11	X	140.17	MLGVCGHGTNLXFFFFFI	32	M	AL133160.1	63932 ... 64759
345	OR8InP	7	11	51.94	MVCCMINVSVSLATLG	44	R	M64386.1	130 ... 975

SEQ ID #	Symbol	D	C	Mb coord	CDR	%	S	Acc	Range
346	OR10Rn P	0	1	154.5	MLAVCTSIVGFIFGVLV	54	M	AC073778.1	168744 ... 167803
347	OR2AFn P	11	X	140.17	MLGTCGHVTLAGISTLL	43	R	L34074.1	73 ... 1011
348	OR8Kn	0	11	51.94	LEIILVYVFLKIFSNLF	55	M	AF102528.1	52 ... 669
349	ORnP	7	10	127.57	S.CCCLLTYYIIHHHHHH	31	M	AC020958.1	164590 ... 163746
350	OR8KnP	10	11	51.94	MIILIIYQMVKIFSNLF	35	M	AC073945.4	152209 ... 153150
351	OR51Hn	0	11	3.6	MHGISSRVPVLGVVTLL	49	R	AF079864.1	632 ... 1576
352	OR7EnP	5	3	136.03	MVACGVLDLHIIDSFGL	51	M	AF073989.1	547 ... 1515
353	ORnP	8	3	56.17	LLLLFLIIIEQH.....I	32	R	M64376.1	1 ... 999
354	OR5BMn P	20	3	103.93	KXNKCTLSSSLMVFIQF	30	M	AF146372.1	509 ... 1456
355	OR10Gn P	0	11	138.1	LHGCCGGHFQFTDILAT	63	M	AF259072.1	55611 ... 54658
356	OR2Yn	0	5	209.23	LLGSCAANIQLMARVVV	74	M	AC044846.2	139468 ... 138536
357	OR10Dn P	1	11	138.1	LHGCCGGHVLLSNVAM	66	M	AC074177.4	128803 ... 129726
358	OR3BnP	7	X	158.48	IHAPSILNTYLLSFVAA	37	M	AL136158.1 4	29455 ... 30402
359	OR8Dn	0	11	138.1	LCVICAVDIHCIIGNMA	62	R	X80671.1	203 ... 1129
360	OR5RnP	0	11	52.13	LLMICVYVFHIFADMS	68	M	AF102528.1	52 ... 669
361	OR10Gn	0	11	138.1	LHGSCGSHVQLINIVAG	58	M	AF259072.1	55611 ... 54658
362	OR5BDn P	12	11	53.74	MTGTCVVIHRALSSITP	39	M	NM_013728. 1	1 ... 948
363	OR5ALn P	1	11	52.13	VIVVLSYVVQALIANTC	52	M	AC073947.3	29192 ... 30115
364	OR52Hn P	3	11	4.15	LHFVSGRVPCLGVPTVT	59	M	AF121975.1	50 ... 1012
365	OR10Gn	0	11	138.1	LHGGCSSHVQLITVVAG	56	M	AF259072.1	55611 ... 54658

SEQ ID #	Symbol	D	C	Mb coord	CDR	%	S	Acc	Range
366	OR5Mn	0	11	52.17	CIVHIVYTMEWMVANLF	52	M	AF146372.1	509 ... 1456
367	OR51Mn	0	11	4.15	MHSFSIRAPILGVVTVL	50	M	NM_013617.1	1 ... 921
368	OR6Tn	0	11	138.1	SFGTFAAWCPLALSVLG	52	M	NM_010991.1	1 ... 939
369	OR6DnP	5	10		SLGSFVVLGLKALVLT	69	R	AF034903.1	85 ... 1053
370	OR4B1	0	11	45.36	IHGVIGGHIQVNSFSF	62	M	AF102522.1	40 ... 660
371	OR5ALnP	4	11	52.13	VISVVGYMIQALIANVC	50	M	AF146372.1	509 ... 1456
372	OR51Qn	0	11	4.15	FHSFSACAPSLGLAIIV	49	M	NM_013617.1	1 ... 921
373	OR4Dn	0	11	138.1	LHGGIAGHVQLMNNVTM	63	M	AC019272.4	62255 ... 61317
374	OR52Nn	0	11	4.58	MHTGSLRLPSLGVAIGF	52	M	NM_013619.1	118 ... 969
375	OR4Xn	0	11	45.36	MHGGGAIGHGQLINGISV	58	M	AB030896.1	1 ... 906
376	OR8Jn	0	11	52.03	LLIVVLYTVVYVSANVG	77	M	X89682.1	2 ... 472
377	OR51JnP	2	11	4.15	MHSMSIKLPLLGIVTFL	46	M	AF071080.2	15931 ... 16851
378	OR10Gn	0	11	138.1	LHGSCSSHVQLIDIVAG	60	M	AF259072.1	55611 ... 54658
379	OR52En	0	11	4.58	MHTGTVRLPFLGVIIID	66	M	AF121979.1	53 ... 1106
380	OR4Xn	0	11	45.36	LHGGIIGHAQLINGLSI	64	M	AB030895.1	1 ... 924
381	OR10A2	1	11	5.69	MFGVCAPVVQWAGTVVI	76	M	AF247657.1	1 ... 945
382	OR5Mn	0	11	52.14	CIVHVYVICWMIANFY	49	R	AF091579.1	7 ... 663
383	OR52En	0	11	4.58	MHTGSRFPFLISVVGI	59	M	AF121979.1	53 ... 1106
384	OR8Kn	0	11	51.94	LLIGLIYILVKIFADLS	53	M	AF146372.1	509 ... 1456
385	OR10An	0	11	5.66	MFGACASVVQWAATFIF	89	M	AF247657.1	1 ... 945
386	OR8LnP	3	11	52.13	LIVVMSYVLQLLANTF	51	M	AF102528.1	52 ... 669
387	OR5BPnP	8	11	52.82	VVVVVGGSIVPPVGLHL	43	R	U50948.1	34 ... 978
388	OR52Nn	0	11	4.58	MHTGSARLPFLGVAIGF	54	M	AF121976.2	474 ... 1307

SEQ ID #	Symbol	D	C	Mb coord	CDR	%	S	Acc	Range
389	ORnP	7	11	45.36	WWWWIALLR.AAAAAK	28	M	X89686.1	32 ... 472
390	OR8JnP	1	11	51.94	LLIVILQTTVCVFSNLF	99	M	X89682.1	2 ... 472
391	OR5Mn	0	11	52.24	CIVIFVYNSQLMVATLS	50	R	AF091579.1	7 ... 663
392	OR52En	0	11	4.58	MHTVSIRMPLLGSILL	66	M	AF121979.1	53 ... 1106
393	OR5Tn	0	11	51.94	VCGTCAAHIHAFVIEV	52	M	AF146372.1	509 ... 1456
394	OR52Nn P	5	11	4.58	MHTGSVQLPFLGAAIGF	51	M	NM_013619. 1	118 ... 969
395	OR4B2P	6	11	45.36	IFGIIGRHVQVNSELS	53	M	AB030896.1	1 ... 906
396	OR51Kn P	6	11	4.15	MHSCSGKLPLLGIWNFL	51	M	NM_013617. 1	1 ... 921
397	OR52Qn P	10	11	4.58	MYTGSVRFPFLFVAVGI	45	M	AF121979.1	53 ... 1106
398	OR4Fn	0	15	86.21	IHGGMIIHIQFVNSISA	50	M	AF102522.1	40 ... 660
399	OR11Mn P	1	12	41.92	FSAACGSSFTL.....	48	M	AL359381.1	175785 ... 176720
400	OR52Nn	0	11	4.44	MHTGSARLPFLGVAIGF	57	M	NM_013619. 1	118 ... 969
401	OR56An	0	11	4.58	MNLASFRMPILQGGLLS	73	M	AF121981.1	89 ... 475
402	OR5AWn P	14	X		LXADFTSNLPTTSSNVV	39	R	X80671.1	203 ... 1129
403	OR52Nn	0	11	4.51	MHTGSARLPFLGVAIGF	55	M	AF121976.2	474 ... 1307
404	ORnP	15	X		ISCIFELTLPLPSNVV	31	M	AC073947.3	29192 ... 30115
405	OR52En P	6	11	4.58	VHSVSVRMPILGNIILL	62	M	AF121979.1	53 ... 1106
406	OR5BHn P	9	X		MVASC GGKTVSLCGTLT	40	M	NM_013728. 1	1 ... 948
407	OR4QnP	1	15	1.66	IHGAMAGHMQLMNSLSV	60	M	AC019272.4	62255 ... 61317
408	OR51En	0	11	3.04	MHSGSARLPFLGVIAIL	60	R	AF079864.1	632 ... 1576
409	OR11Kn P	2	15	1.66	FSGYGFCITLLITFVFI	53	M	AF121972.1	171 ... 1109
410	OR12D1 P	1	6	33.02	LHGSATIHLMSTGIAG	76	M	AL133159.4	16108 ... 15185

SEQ ID #	Symbol	D	C	Mb coord	CDR	%	S	Acc	Range
411	OR4NnP	3	15	1.61	LHGGGAGHIQLMNSMTM	55	M	AC019272.4	62255 ... 61317
412	OR11A1	0	6	33.02	FGATCTSVLVLTLSCLI	76	M	AL359381.1	175785 ... 176720
413	OR10C1	0	6	33.02	MLGACSCVGHFIATLIC	59	M	AL365336.1	122764 ... 121784
414	OR2H1	0	6	33.02	LLGTCVMQVQSLSSFVV	88	M	AL078630.1	48786 ... 47851
415	OR9RnP	8	12	59.71	LAVGGGCNIQFLLSITT	54	R	AF091579.1	7 ... 663
416	OR4FnP	0	7	0.53	.....VLHFQFVNSICG	50	M	AB030896.1	1 ... 906
417	OR7D4	3	19	11.31	VMAGTAIFVHLLATLGF	67	R	AF091580.1	7 ... 663
418	OR7E25 P	3	19	11.31	MIACSVLDLHIVIGFGL	61	R	AF091580.1	7 ... 663
419	OR2D2	0	11	5.69	LLGCCGSVVD FITGILI	65	M	AF073987.1	2 ... 649
420	OR10An	0	11	5.69	MFGVCAPVVQWAGTVVI	76	M	AF247657.1	1 ... 945
421	OR2WnP	3	1	254.49	LLGGCVCQGHWVLAVVS	54	R	L34074.1	73 ... 1011
422	OR7E16 P	8	19	11.31	IAGCDLLDLHIMLALGL	60	M	AF102536.1	22 ... 669
423	OR52Pn	0	11	4.44	MHCMSARLPCLGAIVIV	59	M	AF121976.2	474 ... 1307
424	OR6AnP	4	11	5.66	LLGCCGGIVKLDLAILG	94	R	M64386.1	130 ... 975
425	OR7D2	0	19	11.24	VMPITVITLHLIMTLGF	61	R	AF091580.1	7 ... 663
426	OR52Un P	3	11	4.44	LHSASVRFPMLGVAVAY	52	M	AF121976.2	474 ... 1307
427	OR2AGn	0	11	5.6	MLGGDTLSIYYVMGFLP	55	M	AF102527.1	22 ... 669
428	OR7G3	0	19	11.24	ILVGNLVDLHMVVT LGV	64	R	AF091580.1	7 ... 663
429	OR56Bn P	3	11	4.44	IHVGSFRFPVLQLAGMS	41	M	AF133300.1	25713 ... 26573
430	OR2AGn P	1	11	5.51	MLGSDTLIGHYITGFLP	55	M	AF102527.1	22 ... 669
431	OR56Bn	0	11	4.44	MHVASFRC SVLQLALMS	39	M	NM_013619.1	118 ... 969
432	OR6AnP	5	11	5.51	LLGCCGGIVKLDLAILG	93	R	M64386.1	130 ... 975
433	OR4FnP	4	19	63.23	IHGGMVLHFQFVNSICG	49	M	AB030896.1	1 ... 906

SEQ ID #	Symbol	D	C	Mb coord	CDR	%	S	Acc	Range
434	OR6Wn	0	7	148.04	SFGSFAVSSPQDLSFVT	47	M	NM_010991.1	1 ... 939
435	OR4Mn	0	15	1.59	LHGAMLGHIQLMSSISV	52	M	AF259072.1	104176 ... 105099
436	OR52Yn P	13	11	3.6	VVVVVLQWPVMGMAVDF	29	M	AF133300.1	46551 ... 47498
437	OR11Hn P	2	15	1.78	FFGTCLCWIPCLSVIG	61	M	AF121972.1	171 ... 1109
438	OR9An	0	7	148.04	LSGTFVFSWPALMAILG	46	M	NM_010991.1	1 ... 939
439	OR5Mn	0	11	52.19	CILLFFYDFQLMSANLS	50	M	AC069563.9	129775 ... 130725
440	OR6Vn	0	7	148.04	FFGSFAAAPTSDMAFVS	45	M	NM_010991.1	1 ... 939
441	OR4Nn	0	15	1.61	LHGGGAGHIQLMNSMTL	53	M	AC019272.4	62255 ... 61317
442	OR51An P	4	11	3.6	EHTDSLILPFTGLACMS	43	M	NM_013617.1	1 ... 921
443	OR9PnP	10	7	148.04	FGSNSFEHLVFIHSLLM	39	M	NM_010983.1	178 ... 975
444	OR4H6P	3	15	1.66	MHGCI LGHVQLVNSISG	59	M	AF259072.1	104176 ... 105099
445	OR51Fn P	2	11	3.6	MHTFSLRLPLLGLTTI	48	R	AF079864.1	632 ... 1576
446	OR7E1P	3	11	68.1	MVACGVLDLHIIDSFGL	55	M	AF073989.1	547 ... 1515
447	OR51Tn	0	11	3.6	MHSLSVRFPLAGLQNT	44	R	AF079864.1	632 ... 1576
448	OR2Vn	0	13	104.15	IVVGGSFDIQVICMLF	84	M	AF102535.1	16 ... 669
449	OR51Hn P	7	11	3.6	MHGG SARAPVLGAVIIL	51	R	AF079864.1	632 ... 1576
450	OR51An	0	11	3.6	EHTVSIRLPFTGIAC TL	48	M	AF071080.2	26330 ... 27262
451	OR2AIn P	2	5	209.13	YLGSCLSNFHLMARILL	55	M	AC044846.2	112743 ... 113748
452	OR2F2	0	7	148.74	LLGGFTSNVQIISLLT	54	M	AF073974.1	41 ... 649
453	OR1F12	0	6	31.61	MMANNAINLHMVTVIFV	58	M	AC023167.7	60743 ... 61663

SEQ ID #	Symbol	D	C	Mb coord	CDR	%	S	Acc	Range
454	OR7G1P	0	19	11.24	ILAGSLMDVQMIASFGI	60	R	AF091580.1	7 ... 663
455	OR7G2	0	19	11.24	ILAGNLTNLLMIAAFGV	61	R	AF091580.1	7 ... 663
456	OR1M1	0	19	11.24	MHGISAFITHLIVAVIT	89	M	X89689.1	32 ... 472
457	OR51Un P	1	11	2.89	VTDDN.....	48	R	AF079864.1	632 ... 1576
458	OR52Hn	0	11	4.19	MHFVSGRIPDLGVPTVS	59	M	AF121975.1	50 ... 1012
459	OR1F1	0	16	6.15	MFVDNGVNLHLIEGVM	75	R	M64377.1	1 ... 939
460	OR10Pn P	0	16	87.09	MIGICTTTTHLVATFII	48	M	AF247657.1	1 ... 945
461	OR4FnP	4	19	7.9	IHGGMVLHFQFVNSICG	49	M	AB030896.1	1 ... 906
462	OR2T1	0	1	254.77	HLVGFGDDLIMCCMLI	92	M	AF102527.1	22 ... 669
463	OR7EnP	9	19	22.8	VAGCDLLDLHIMLAFGL	60	M	AF102536.1	22 ... 669
464	OR51Gn	0	11	3.6	LHSFSVRLPLMGVITVI	57	M	NM_013617.1	1 ... 921
465	OR2Tn	0	1	254.77	MVAGFGLDTFIMCCMLI	67	M	AF102527.1	22 ... 669
466	OR5BGn P	2	11	51.27	AAAAAGGSIHNLFAVEI	52	R	U50948.1	34 ... 978
467	OR5WnP	3	11	51.27	MGADCLVDIHC MFVAC	51	M	AF146372.1	509 ... 1456
468	OR51Sn	0	11	3.6	MHSVSARLPLLLVLMGD	42	M	AF071080.2	26330 ... 27262
469	OR5WnP	1	11	51.27	.....LVFIES	55	M	AC074177.4	107189 ... 107708
470	OR51An P	3	11	3.6	EHTDSLILLPTGVAMMD	46	M	NM_013617.1	1 ... 921
471	OR5Dn	0	11	51.21	FCGVTGWCILFCIANES	46	M	AF146372.1	509 ... 1456
472	OR7EnP	4	4	5.55	MVACGVLDLHIIDSFGL	54	R	AF091580.1	7 ... 663
473	OR51Fn	0	11	3.6	MHTFSSRPVFGALTTF	53	R	AF079864.1	632 ... 1576
474	OR5Dn	0	11	51.21	YCVVSGWGVLYLFANEC	48	M	NM_013728.1	1 ... 948
475	OR52Rn	0	11	3.6	VHSSSIRWPFMGVAVAF	58	M	AF121976.2	474 ... 1307
476	ORnP	27	11	51.21	FCFAAGQSPGFLCFFFF	23	M	AB030893.1	37 ... 930

SEQ ID #	Symbol	D	C	Mb coord	CDR	%	S	Acc	Range
477	OR7EnP	6	3	121.47	MVACDVLDLHIIDSFSL	57	M	AF073989.1	547 ... 1515
478	OR6Qn	0	11	54.04	LTGACAVTLPLDVSFLA	52	M	NM_010983.1	178 ... 975
479	OR4Fn	0	6	185.89	IHGGMVLHFQFVNSICG	51	M	AB030896.1	1 ... 906
480	OR7EnP	3	13	40.31	FFSP.AAALHIMPAFGL	65	M	X89686.1	32 ... 472
481	OR7En	0	2	95.17	MVACDVLDLHIIDSFGL	57	M	AF073989.1	547 ... 1515
482	OR4Nn	0	14	0.27	LHGAMVGHVQLMNSLSL	58	M	AC019272.4	62255 ... 61317
483	OR2ASn P	7	1	254.77	.....GGGGMICGLLP	43	M	AF102535.1	16 ... 669
484	OR11Hn	0	14	0.33	FFGTCFIGIPYFQSVLF	90	M	AF121972.1	171 ... 1109
485	OR2Tn	0	1	254.77	MLAGFGLDMLIMCCMLI	69	M	AF102527.1	22 ... 669
486	OR2TnP	1	1	254.77	CMMGFSGDLLIMCCMLI	77	M	AF102527.1	22 ... 669
487	OR2AKn P	3	1	254.55	TLGGACSNIHVSGILL	50	M	AF102533.1	16 ... 669
488	ORnP	16	12	4.38	VLKSKCWQLPFYMLLM	25	R	Y07557.1	1 ... 942
489	OR5DnP	4	11	51.21	FCAVTGWSTLFCIANES	48	R	U50948.1	34 ... 978
490	OR7EnP	1	4	5.55	FVACDVLDLHIIDNFGL	54	M	AF102536.1	22 ... 669
491	OR5L2	0	11	51.27	FCGVVCCCIHLLVANEV	53	M	AF146372.1	509 ... 1456
492	OR5Dn	0	11	51.27	FCVVLVWCTLSLVANES	48	M	NM_013728.1	1 ... 948
493	ORnP	4	9	81.99	..CCCLFFQSIASGTI	23	M	AL359381.1	82137 ... 81544
494	OR10Qn	0	11	54.08	MVGSCGLPQLLLSVLI	50	M	AL365336.1	123248 ... 124093
495	OR9MnP	1	11	51.27	LCVDSGGSIHNLFAVEI	54	M	AC069559.8	73704 ... 74636
496	OR7E62 P	5	2	73.96	MAACDVLDLHTIDSFRL	56	M	AF073989.1	547 ... 1515
497	OR9LnP	13	11	54.06	MFVGCTLVAYGILTMIA	32	M	AC069561.1 0	147203 ... 146274

SEQ ID #	Symbol	D	C	Mb coord	CDR	%	S	Acc	Range
498	OR7E46P	10	2	73.96	MAGVEFCDLHIMPAFGL	54	M	AF102536.1	22 ... 669
499	OR1S1	0	11	54.08	MIVVNILITHLLVGVIF	56	M	AC073769.1	133488 ... 132556
500	OR5DnP	0	11	51.21	FCVIMGWCTLSCISSEC	45	M	AC069563.9	111696 ... 112671
501	OR9InP	4	11	54.06	FTASCGGNICCISAVIT	46	R	AF091579.1	7 ... 663
502	OR5Dn	0	11	51.21	FCVVSGWCELSLLANES	53	M	AF146372.1	509 ... 1456
503	OR9QnP	4	11	54.08	FTASCGASVRTIFAVMA	47	M	AL365337.1	192661 ... 191711
504	OR51CnP	0	11	3.04	MKTVSARMPMLGAMTVV	51	R	AF079864.1	632 ... 1576
505	OR5WnP	1	11	51.27	FCADCGVDIHL.....	53	M	AC069561.1 0	127636 ... 126698
506	OR9InP	2	11	54.06	FTAGCSCGLHCICAMFA	46	M	AC074177.4	106297 ... 105361
507	OR51AnP	4	11	3.04	MHSVSARVPVPGVVTGL	72	M	X89685.1	2 ... 481
508	OR5L1	0	11	51.21	FCVVVCCCIHLLVANEV	55	M	AF146372.1	509 ... 1456
509	OR7EnP	5	13	50.42	.....VVDLHIMPAFGL	66	M	X89686.1	32 ... 472
510	OR5BLnP	18	11	54.08	ILGNXLENQCIFAMIT	29	R	M64392.1	1 ... 942
511	OR51En	0	11	3.04	MHSASVRFPLLGAIVMV	95	R	AF079864.1	632 ... 1576
512	OR51Dn	0	11	3.04	MHSASSRFPLIGIIVMV	61	R	AF079864.1	632 ... 1576
513	OR52In	0	11	3.04	MHTATARFPLMSGSMVS	46	M	AF121975.1	50 ... 1012
514	OR4KnP	2	18	19.04	IHTGMIVHSQFIDSLSS	56	M	AB030896.1	1 ... 906
515	OR52In	0	11	2.99	MHTATARAPLMSGSMVS	47	M	AF121975.1	50 ... 1012
516	OR4KnP	2	18	19.04	IHNIGIVVHSQFMTSIAI	55	M	AB030896.1	1 ... 906
517	OR52MnP	1	11	3.04	MHATSVRYPGIGVLL	51	R	AF079864.1	632 ... 1576

SEQ ID #	Symbol	D	C	Mb coord	CDR	%	S	Acc	Range
518	ORnP	7	6	31.58	FLVSCLLLLLLLEGIHW	30	M	AF073964.1	41 ... 649
519	ORnP	9	8	88.25	IXVVVLNIVNMTTIIFL	24	M	AC074177.4	149899 ... 148964
520	ORnP	9	10	70.63	YSIVMFYHAHFICELLN	26	M	AC068902.1 1	144125 ... 143193
521	ORnP	9	9	70.7	WWWWSWYGNFDD SITX	26	R	AF091563.1	7 ... 669
522	ORnP	9	5	202.43	FFFFFF.PPPPP.....	27	R	AF034902.1	4197 ... 5177
523	ORnP	10	11	137.77	LLLLWSQFXQFLAVVVV	29	R	M64376.1	1 ... 999
524	ORnP	3	11	16.31	NNNNNLLXMNILTLLAI	27	M	AL136158.1 4	29455 ... 30402
525	ORnP	17	11	55.6	LAGNNIYCYHM..LLLL	26	R	M64377.1	1 ... 939
526	OR6Pn	0	1	154.6	LIACCASSMKFDLAMIL	60	M	NM_010983. 1	178 ... 975
527	OR7EnP	3	14	33.48	MVACDVLDLHIIDSFGL	54	R	AF091580.1	7 ... 663
528	ORnP	12	11	138.51	LMCHS.FFFFFFFMMMMM	29	R	AF091573.1	7 ... 663
529	OR7EnP	5	14	33.48	MAGGDFLDLYILPDFGL	55	M	AF073989.1	547 ... 1515
530	ORnP	7	10	127.4	S.CCCLLYIIHHHHHH	31	M	AC020958.1	164590 ... 163746
531	OR10XnP	2	1	154.6	MLGGCSAITELIISGLG	49	M	AC073778.1	168744 ... 167803
532	OR10Zn	0	1	154.71	MAACCTTFGMVILSVLV	56	M	AC025913.3	108128 ... 109067
533	OR6KnP	2	1	154.73	MYGIVGCTPEWVVHEIT	40	R	M64386.1	130 ... 975
534	OR6Kn	0	1	154.73	MHGIVSCTPEWVIHEIT	44	M	AC027184.3	54955 ... 54017
535	OR1FnP	1	4	97.57	.....IEGVMT	73	R	M64377.1	1 ... 939
536	OR1ABnP	3	19	19.44	MIGISAFNTHLV.....	64	M	AC073769.1	133488 ... 132556
537	OR52MnP	1	11	2.89	MHATSARYLPIGIGVLL	49	M	AF121975.1	50 ... 1012
538	OR1XnP	6	5	202.43	MIANTLGIVHIFAALFA	71	M	AF102530.1	1 ... 666

SEQ ID #	Symbol	D	C	Mb coord	CDR	%	S	Acc	Range
539	OR4FnP	8	16	83.04	QQQQQVIHSQFVNSLTC	46	M	AC019272.4	62255 ... 61317
540	OR52Mn P	5	11	2.89	MHATSVRYLPIGIGVLM	45	R	AF079864.1	632 ... 1576
541	OR2Vn	0	5	209.61	IVVGGSFDIQVICMLF	83	M	AF102535.1	16 ... 669
542	OR2V1P	4	5	209.61	IVVGGSFDIQALCCMLL	90	M	AF102537.1	16 ... 669
543	OR2Zn	0	19	65.55	ITGVGSVNIQILSGILL	76	M	AC073769.1	54319 ... 55289
544	OR52Kn P	5	11	2.89	.....AMFIEL	52	M	AF121975.1	50 ... 1012
545	OR10Hn	0	19	19.7	MFGFSWGMVIGLVTAI	75	M	AC023604.2	214343 ... 213396
546	OR2Dn	0	11	5.77	ILGCCRSVVDFIMGILA	85	M	AF073987.1	2 ... 649
547	OR7EnP	6	2	161.49	VVGCCSSDLHIMPAFGL	64	M	X89686.1	32 ... 472
548	OR11Gn P	4	14	0.27	FFGSCSLWIPVSLSLLI	68	M	AC027184.3	54955 ... 54017
549	ORnP	12	14	0.27	GSCGNSLHHYLMVNIIL	28	M	AF121972.1	171 ... 1109
550	OR11Gn	0	14	0.33	FFGSCNLWIPNFLSPVM	67	M	AF121972.1	171 ... 1109
551	OR11Hn P	5	14	0.33	FTGTAFFSVSQFLSIIL	68	M	AF121972.1	171 ... 1109
552	OR6Kn	0	1	154.73	MHENGGFIPMDHATII	46	R	AF034897.1	354 ... 1199
553	OR11Hn	0	14	0.33	FFGTCVGCVP LCFNIIG	71	M	AF121972.1	171 ... 1109
554	OR6KnP	0	1	154.73	MHGNGGFVPEWDHAAIF	46	M	AL365336.1	122764 ... 121784
555	OR11Hn P	2	14	0.33	FFGTCLIGISFFVVSFIL	70	M	AF121972.1	171 ... 1109
556	OR6KnP	2	1	154.82	MHGVAGFMPECDRASIT	43	M	AC027184.3	54955 ... 54017
557	OR6Kn	0	1	154.84	MHGISGCLPEWVIHEIA	45	R	AF034900.1	1 ... 963
558	OR2Ln	0	1	254.55	SSGGAGINAHYVSTFLF	53	M	AF102527.1	22 ... 669
559	OR4GnP	8	16	83.04	ICRKMAVHSQFVNSISA	45	M	AB030892.1	1 ... 939

SEQ ID #	Symbol	D	C	Mb coord	CDR	%	S	Acc	Range
560	OR6Nn	0	1	154.84	IHGACGGGVELDINKIA	50	R	M64386.1	130 ... 975
561	OR2LnP	2	1	254.55	SLAVGGINAHY.....W	52	M	AF102535.1	16 ... 669
562	OR9A1	0	7	146.91	LLGTLVLSWPALMAIIG	45	M	L14567.1	17 ... 667
563	OR6Nn	0	1	155.69	THGACACCSELDINIII	51	M	AL136158.1 4	29455 ... 30402
564	OR10Hn	0	19		MFGFSCGMVVAGLVTAL	86	M	AC023604.2	245345 ... 246298
565	OR7EnP	4	9	71.72	MVACDVLDLHIMNSFGL	57	M	AF073989.1	547 ... 1515
566	OR2AQn P	5	1	155.69	FCHSCLLLLSLLPFFFF	31	M	AL359352.1	55588 ... 56546
567	OR2LnP	3	1	254.55	SMAGAGINAHYVSSFLF	50	M	AF102537.1	16 ... 669
568	OR5ARn	0	11	52.46	FVVDCGASAHLLLCIES	53	R	AF091579.1	7 ... 663
569	OR7EnP	4	9	71.79	TAGGETLDLHIMPAFGL	57	M	AF102536.1	22 ... 669
570	OR10AA nP	2	1	155.69	THGMCAAAPLHVIAATC	84	M	AC005992.1 5	9114 ... 8173
571	OR10Jn P	4	1	157.7	MIAICGVVVQSNVSVIV	72	M	X92969.1	8035 ... 8961
572	OR5A1P	0	11	55.81	FVGLCGGSIQSNVVVGT	81	M	Y15525.1	1 ... 705
573	OR2AHn P	5	11	52.46	MLGSCISSVILVFSIVI	51	M	AF247657.1	1 ... 945
574	OR10Jn P	4	1	157.7	LLGICGIMVQSNVSVLL	68	M	X92969.1	8035 ... 8961
575	OR56Bn P	2	11	4.93	IHMCSSRLPVLQLVVVS	39	M	AF121975.1	50 ... 1012
576	OR5M1	0	11	52.35	CIVIFIYSSQLMVANLS	49	R	AF091579.1	7 ... 663
577	OR52Wn P	0	11	4.93	MHTASLLAVPLGLSISM	48	M	AF121976.2	474 ... 1307
578	OR5AMn P	5	11	52.35	FIVIIYAYNVQLMVANLC	35	M	AC068904.1 5	113793 ... 114719
579	OR52Bn P	3	11	4.93	MHEVSTQTPVLGVPSVV	89	M	AF121975.1	50 ... 1012
580	OR5MnP	1	11	52.35	CVLLYFWVMQLLSANLV	48	R	X80671.1	203 ... 1129

SEQ ID #	Symbol	D	C	Mb coord	CDR	%	S	Acc	Range
581	OR5APn P	6	11	52.35	FGAGGALNIHFIFANES	55	R	X80671.1	203 ... 1129
582	OR56Bn	0	11	4.95	IHFCSFRLPVLQALVS	41	M	AF121975.1	50 ... 1012
583	OR5APn	0	11	52.35	FGLGCTANIHMIFSIVS	55	M	AF121977.1	262 ... 1197
584	OR52Bn	0	11	4.93	GHFVSARIPVLGVPMVL	73	M	AF121975.1	50 ... 1012
585	OR9Gn	0	11	52.5	FAAYCVGNIIKMLLNVC	45	M	AC074177.4	106297 ... 105361
586	OR52Kn	0	11	2.86	MHSISARLPLLGVASVL	53	M	NM_013619.1	118 ... 969
587	OR5MnP	1	11	52.35	FIVIIYAYNSQLMVANLC	51	M	AC074177.4	106297 ... 105361
588	OR52Kn	0	11	2.86	MHSISARLPLLGVAIVL	52	M	NM_013619.1	118 ... 969
589	OR52Kn P	3	11	2.82	MHSISARLPLLGVAIGL	53	M	NM_013619.1	118 ... 969
590	OR52Bn P	4	11	2.78	IHFISARVPDLGVLTVL	57	M	AF121975.1	50 ... 1012
591	OR2B6P	0	6	31.62	LLGAYATNWLLLVSFHI	79	R	L34074.1	73 ... 1011
592	OR2WnP	7	6	31.61	LLRGCASNVMLAFAIVL	58	M	AF102516.1	52 ... 669
593	OR2AnP	5	7	148.83	TMAHCTCLVHLISSILG	72	M	AF102521.1	22 ... 669
594	ORnP	16	6	31.61	FLVSCMDFMIVLNNVI	39	M	AF102516.1	52 ... 669
595	OR2LnP	0	1	254.55	STAVAGINAHYVSAFLF	50	M	AF102527.1	22 ... 669
596	OR2W2P	5	6	31.61	LLGGCVCQSYWVLSIVM	55	R	L34074.1	73 ... 1011
597	OR2LnP	1	1	254.55	SLAGA.....	61	M	AF102535.1	16 ... 669
598	OR2B7P	1	6	31.61	LLGGCTTNIQLIVSFLV	59	M	AC044846.2	105668 ... 104736
599	OR2Ln	0	1	254.43	SLGGAGINAHYVSAFLF	53	M	AF102527.1	22 ... 669
600	OR5BFn	0	1	254.77	VVVYLASYMHISISAVGG	46	M	AL359352.1	9138 ... 8177

SEQ ID #	Symbol	D	C	Mb coord	CDR	%	S	Acc	Range
601	OR2LnP	4	1	254.55	SVAGMSMDAHYVSTFLF	47	M	AF102527.1	22 ... 669
602	OR7EnP	3	10	17.14	MVACCVLDLHI.....	51	R	AF091580.1	7 ... 663
603	OR1H1	2	9	106.04	LGADNVIHVHLLVALLA	57	M	AC073769.1	133488 ... 132556
604	ORnP	14	1	254.49	TTTKKSERIYIVSSFLI	24	M	AF102527.1	22 ... 669
605	OR4Dn	0	11	55.81	IHGGIASHIQLMNNVTI	64	M	AC019272.4	183633 ... 182701
606	OR1Ln	0	9	106.04	MYGNSFFHLHLQEAVLT	54	M	AC023167.7	60743 ... 61663
607	OR5AXn	0	1	254.2	L TSAIVIFAYGGVGLSS	47	M	AL136158.1 4	154973 ... 155908
608	OR5An	0	11	55.77	YCGLCGGSIESTVSVGV	64	M	Y15525.1	1 ... 705
609	OR5AYn	0	1	254.2	LVAGILNLLYGSIGYAS	50	M	AL359352.1	126933 ... 127889
610	OR13Gn	0	1	255.42	LTLGMMINVHLVADLAG	59	M	AF102540.1	16 ... 669
611	OR5BBn P	0	11	55.77	YASLCGGSVHPLEAVGG	54	M	Y15525.1	1 ... 705
612	OR9GnP	6	11	52.49	FVXNCAGNIIELMLNIT	47	M	AF121977.1	262 ... 1197
613	OR2TnP	4	1	254.77	HLAGFAGNLLVMCCMLI	75	M	AF102527.1	22 ... 669
614	ORnP	7	1	255.42	PVAGKGAFLHSVESLGS	38	M	AL365337.1	192661 ... 191711
615	OR1Jn	0	9	95.9	MITDSVLSSHLMVGIVL	66	M	AF102524.1	52 ... 669
616	OR2CnP	1	16	6.47	LLGACIGNIQFLVCFTV	85	M	M84005.1	1 ... 936
617	OR9GnP	2	11	52.49	FAAYCYGNILNLLNVS	49	M	AL365337.1	192661 ... 191711
618	OR2C1	0	16	6.4	LLGACIGNIQFLVCFTV	85	M	M84005.1	1 ... 936
619	OR51An P	2	11	4.22	.....	52	M	AF071080.2	26330 ... 27262
620	OR9Gn	0	11	52.49	LCAYCGGNAHNLVVTVS	53	M	AC068904.1 5	165039 ... 165965

SEQ ID #	Symbol	D	C	Mb coord	CDR	%	S	Acc	Range
621	OR52Bn	0	11	2.78	LHFISTRTPILGILTVL	61	M	AF121975.1	50 ... 1012
622	OR1K1	0	9	105.89	MFGVSMVHLYLIEGVVT	58	R	M64377.1	1 ... 939
623	OR51Rn P	3	11	2.78	MHTYSARLPGLGSISLL	47	R	AF079864.1	632 ... 1576
624	OR7EnP	2	13	54.83	MVACDVLDLHILDSFGL	57	M	AF073989.1	547 ... 1515
625	OR52Pn P	3	11	2.82	MHSASARLPLLGAAVVT	55	M	AF121975.1	50 ... 1012
626	OR7EnP	5	9	70.7	MVACDVQYVHSMDSFGL	48	M	AF102536.1	22 ... 669
627	OR7EnP	5	9	70.7	TAGGD.CCCCC.....	43	M	AF073989.1	547 ... 1515
628	OR4KnP	1	21	8.12	IHTGMIVHSQFIDSLSS	57	M	AF259072.1	104176 ... 105099
629	OR4KnP	2	21	8.12	IHNGIVVHSQFMTSTAT	54	M	AB030896.1	1 ... 906
630	OR7EnP	6	9	70.7	.....VFLVHSPAFGL	58	M	X89686.1	32 ... 472
631	OR51In	0	11	4.15	MHSFSGKTPFVGIVITYM	51	R	AF079864.1	632 ... 1576
632	OR51In	0	11	4.15	MHSMSGRTPLLGVLTfM	56	R	AF079864.1	632 ... 1576
633	OR2AnP	1	7	148.83	TLAICTFL.....	63	M	AF102521.1	22 ... 669
634	OR2A2	2	7	148.83	TLAVCTCLVHLITCVLG	68	M	AF102521.1	22 ... 669
635	OR2AnP	8	7	148.83	TFAACTCLVHLITCVLG	68	M	AF102521.1	22 ... 669
636	OR2Gn	0	1	256.63	LHGSCMSTVQLLASFLV	59	M	NM_008762. 1	1 ... 936
637	OR2AnP	0	7	148.83	TLAHCAFFFFL.....	57	M	AF102521.1	22 ... 669
638	OR6Fn	0	1	254.2	MFGCYGCAVPLAIAVIS	71	R	M64378.1	1 ... 933
639	OR2AnP	4	7	148.83	TLAHCAFLVHLISCILG	68	M	AF102521.1	22 ... 669
640	OR2Gn	0	1	256.02	LLGSCISSIHFLVSFVI	63	M	M84005.1	1 ... 936
641	OR7E37 P	5	13	26.5	MAGGEFLDLHIMPAFGL	57	M	AF073989.1	547 ... 1515
642	OR5AVn	0	1	256.02	AMATVMSCMHAVFGLVI	51	M	AL359352.1	9138 ... 8177

SEQ ID #	Symbol	D	C	Mb coord	CDR	%	S	Acc	Range
643	OR2AJn P	7	1	254.43	VLLGCGINVHYVSAFLI	55	M	AF102527.1	22 ... 669
644	OR13En P	1	9	39.89	MLGSCLTNLQLLATLTA	79	M	AJ251155.1	15491 ... 16423
645	OR2Cn	0	1	257.85	FHGACAGTVGLMASFVL	63	M	M84005.1	1 ... 936
646	OR2TnP	0	1	254.43	IPGGCSLDLQAMCCMLV	59	M	AF102537.1	16 ... 669
647	OR2WnP	2			LMGSCVCNIMQTLGLLV	56	M	M84005.1	1 ... 936
648	OR13Jn	0	9	39.89	MLGSCALKTEILGSLLV	82	M	AJ251155.1	6062 ... 6997
649	OR6RnP	2	1	254.39	SFGCFLGLPSLDSSLIS	45	M	NM_010983. 1	178 ... 975
650	OR5ATn	0	1	254.39	VLASLVYIMHGLINLDC	50	M	AL359352.1	111313 ... 112242
651	OR2Zn	0	19	10.64	ITGVGSVNIQILSGILL	76	M	AC073769.1	54319 ... 55289
652	OR4Ln	0	14	0.08	MHGGMLIHSQVLDSLST	53	M	AB030893.1	37 ... 930
653	OR4UnP	14	14	0.15	RHSGMAMHSQVLDSLST	46	M	AB030895.1	1 ... 924
654	OR4Fn	0	6	185.98	IHGGMIHIHQFVNSISA	50	M	AF102522.1	40 ... 660
655	OR4FnP	2	6	185.98	IHGGMAIHVQFVNSISS	50	M	AB030896.1	1 ... 906
656	OR4Fn	0	6	185.98	IHGGMATHVQFVNSISG	50	M	AB030896.1	1 ... 906
657	OR4Fn	0	6	185.98	IHGGMTIHVQFVNSISG	50	M	AB030896.1	1 ... 906
658	OR4AnP	5	11	50.28	IHGGILGHVQFVNDICV	65	M	AF102522.1	40 ... 660
659	OR4LnP	1	14	0.21	KHGSMLIHSQVLDSLST	53	M	AB030893.1	37 ... 930
660	OR7E33 P	6	13	54.79	MAGGEFLDLRILPAFGL	56	M	AF073989.1	547 ... 1515
661	OR2Cn	0	1	257.85	FHGACAGTVGLMASFVL	63	M	M84005.1	1 ... 936
662	OR4Kn	0	14	0.15	MHGGMSVHSQFVDSLVS	53	M	AF259072.1	104176 ... 105099
663	OR5U1	0	6	33.45	VIASVAASMHILFTAAI	84	M	AL359352.1	111313 ... 112242
664	OR4Kn	0	14	0.08	IHGGMAVHSQFMDLSS	58	M	AF259072.1	104176 ... 105099

SEQ ID #	Symbol	D	C	Mb coord	CDR	%	S	Acc	Range
665	OR5V1	0	6	33.45	LVVGCSANVHLLTGIGT	84	M	AL365337.1	192661 ... 191711
666	OR4QnP	1	14	0.08	LHGAMAGHVQLMNSISI	62	M	AF259072.1	104176 ... 105099
667	OR12D3	0	6	33.45	LHGSAAIYMHMLVTISG	70	M	AL359381.1	128169 ... 127234
668	OR4Kn	0	14	0.08	IHTGMIVHSQFIDSLSS	59	M	AF259072.1	104176 ... 105099
669	OR51CnP	3			MKTVSARMPMLGAMTVV	53	R	AF079864.1	632 ... 1576
670	OR1J2	0	9	105.94	MITDSVLSSHLMVGVL	66	M	AF102524.1	52 ... 669
671	OR5BJnP	3			SIGSAAVNTKFPSC LGV	46	M	AF073965.1	2 ... 643
672	OR1J1	0	9	105.82	TIADSGICLHLIAAAIL	63	M	AF102524.1	52 ... 669
673	OR13En	0			MLGSCLTNLQLLATLTA	83	M	AJ251155.1	15491 ... 16423
674	OR4KnP	5	14	0.08	IHGGMVIHTHFVNLSLM	53	M	AB030893.1	37 ... 930
675	OR1LnP	5	9	105.84	MYGNSFFHLHLQEAVLT	54	M	AC023167.7	60743 ... 61663
676	OR2CnP	2			FHGACAGTVGLMASFVL	59	M	M84005.1	1 ... 936
677	OR4TnP	9	14	0.21	MLSELLSHSQFVKSLSI	47	M	AC019272.4	62255 ... 61317
678	OR5BnP	1			FVITSGCNIHNIVVND	51	M	AF121977.1	262 ... 1197
679	OR4Kn	0	14	0.21	IHGGM TLHFQFINSISS	53	M	AB030896.1	1 ... 906
680	OR11Ln	0	1	254.43	LVGACVTTLHMILSVLI	50	M	AF121972.1	171 ... 1109
681	OR7E68P	5	10	17.21	MAGGELLDLHIMPAFGL	56	M	AF102536.1	22 ... 669
682	OR7EnP	2	10	17.21	MVACDVLDLHIIDSFGL	54	M	AF073989.1	547 ... 1515
683	OR7E31P	6	9	70.71	TAGGELLDLHIMPAFGL	55	M	AF073989.1	547 ... 1515
684	OR7EnP	3	9	70.71	MVACDVLDLHIMDSFGL	58	M	AF073989.1	547 ... 1515

SEQ ID #	Symbol	D	C	Mb coord	CDR	%	S	Acc	Range
685	OR5AKn P	3	11	52.82	LAATCGMNVHFLFVNLF	79	R	U50948.1	34 ... 978
686	OR5AKn	0	11	52.83	FAATCGMNVQFLFVNLF	79	R	U50948.1	34 ... 978
687	OR5AKn	0	11	52.83	FAATCGINVFDFVDLF	79	R	U50948.1	34 ... 978
688	OR5BQn P	9	11	52.82	TTTTTLLLLLMLTFFFF	42	R	U50948.1	34 ... 978
689	OR1Nn	0	9	105.94	LLGGNVLPMLIMGFLV	56	R	AF091566.1	1 ... 663
690	OR1J4	0	9	105.94	MITDNVLNSHLIVGVIL	69	M	AF102524.1	52 ... 669
691	OR1Nn	0	9	105.94	MLGDSLLVTHLVLGVLV	85	R	AB038167.1	1 ... 933
692	OR2AnP	4	3	94.41	TLAVCTIMVHHLGSIVG	65	M	AF102521.1	22 ... 669
693	OR2ANn P	17	9	93.78	.....VVVLEFMVNLLI	23	M	AC074177.4	128803 ... 129726
694	OR5K1	0	3	104.47	FCETCGAHIHLFSVQF	51	R	AF091575.1	52 ... 663
695	OR2K2	0	9	93.78	MLGSCVTTLFVMVSLLI	60	M	AJ251154.1	35662 ... 36615
696	OR8Hn	0	11	51.76	MAGTCGIDVNSIIVTLV	51	M	AC069559.8	36251 ... 35322
697	ORnP	15	11	51.76	LIFKNLFSPLXXHYIL	28	M	X89682.1	2 ... 472
698	OR4AnP	14	11	50.28	FGRRVVGHIQLYGHNV	38	M	AB030895.1	1 ... 924
699	OR4An	0	11	50.28	LHGGVVGQFQIVNGSCI	59	M	AB030895.1	1 ... 924
700	OR6Sn	0	14	0.58	FFGAFAGPGPADLAVIS	50	R	M64378.1	1 ... 933
701	OR4RnP	16	11	50.28	NLGAIMEHVXSVNGNYL	52	M	AF102522.1	40 ... 660
702	OR13Cn	0	9	86.77	MLGTCGINVQFLTTFLT	65	M	AJ133425.1	61 ... 1014
703	OR13Dn P	4	9	86.77	MYGSCVLNTELIGNFLS	64	M	AC023789.5	371264 ... 372220
704	OR7EnP	3	11	2.13	MIACGVLDLHIINSFGL	54	R	AF091580.1	7 ... 663
705	OR10Pn P	1	12	59.88	MIGICTTTTHLVATFII	49	M	AF247657.1	1 ... 945
706	OR8In	0	11	51.76	MVVCCMISISVSLATLS	50	M	AC069559.8	137090 ... 138039
707	OR8G1	0			..IIIGICVHCIVGNIV	75	R	AF091576.1	52 ... 663

SEQ ID #	Symbol	D	C	Mb coord	CDR	%	S	Acc	Range
708	ORnP	7	12	59.88	CFPGEAFFTLL.....	34	M	AL359352.1	145887 ... 145042
709	OR5F1	0	11	51.76	MIATCGANVNHSLANIG	50	M	Y15525.1	1 ... 705
710	OR5FnP	1	11	51.76	MIATCGANVNYFFANKG	52	M	Y15525.1	1 ... 705
711	OR6BnP	6	2	251.7	LSVCCFSIIKFDLAILF	70	M	L14567.1	17 ... 667
712	OR2D1	0			LLGCCASVVDFITGILI	64	M	AF073987.1	2 ... 649
713	OR5ASn	0	11	51.76	MAADCLSTVHLLLCIQS	52	M	AC068904.1 5	165039 ... 165965
714	OR5SnP	8	2	251.7	FSSTTGRSVQLKLCMMN	64	R	AF091579.1	7 ... 663
715	OR5AQn P	0	11	51.76	SAVTDAGNTHGPFSIAF	51	R	X80671.1	203 ... 1129
716	OR6BnP	3	2	251.7	LSVCCFSIIKFDLAILF	67	M	L14567.1	17 ... 667
717	OR5JnP	2	11	51.76	YVLTGGGNTHGLFSIAL	52	R	X80671.1	203 ... 1129
718	OR9AnP	4	7	146.91	QLGTLVFFFWPALMAIIG	44	M	NM_010991.1	1 ... 939
719	OR5BEn P	2	11	51.76	YSLTCVLNTHSFLSTST	45	R	AF091564.1	7 ... 663
720	OR9An	0	7	146.91	LLGTFVFFFWPVLMAVLG	47	M	NM_010991.1	1 ... 939
721	OR8Hn	0	11	51.76	MVGTCGIDVNSIIATLV	51	M	AC069559.8	36251 ... 35322
722	OR5BNn P	14	11	51.76	LLMTCAYMSHS.....P	54	M	AF102528.1	52 ... 669
723	OR8Jn	0	11	51.76	LLIVVLYTVVCVSANLF	80	M	X89682.1	2 ... 472
724	OR9NnP	9	7	146.91	LFGTFIIIIIL.AAAAA	36	M	NM_010991.1	1 ... 939
725	OR7EnP	4	7		MVACGMLDLHITHSFAL	51	R	AF091580.1	7 ... 663
726	OR7E9P	3	7		MVACDVLDLHVIDSFGL	51	M	AF073989.1	547 ... 1515
727	OR8KnP	8	11	51.76	MMITLICQIIDILTNP	36	M	AC069563.9	28460 ... 29383
728	OR2AnP	1	7	148.97	ILAHC.....	44	M	AF102521.1	22 ... 669
729	OR8Kn	0	11	51.76	LLIIFIYQMFKSFSNLS	56	M	AF102528.1	52 ... 669
730	OR7E39 P	4			MVGGEFLHFLHIMPAFGL	55	R	AF091580.1	7 ... 663

SEQ ID #	Symbol	D	C	Mb coord	CDR	%	S	Acc	Range
731	OR7E27P	3			MAGGELLDLHIMPAFGL	57	M	AF102536.1	22 ... 669
732	OR2Hn	0	6		FLGTCVMEVQSLASILV	81	M	AL078630.1	41097 ... 40165
733	OR13CnP	2	9	40.16	MLGACGATVQLMANFLV	87	M	AJ133428.1	61 ... 1017
734	OR13Cn	0	9	40.16	MFGACGAAVQLMTNFLV	89	M	AJ133424.1	61 ... 1017
735	OR2S1P	4	9	40.16	MFGACGANVQLMTNELL	89	M	AJ251154.1	2703 ... 1747
736	OR2AMnP	1	9	40.16	.....RRRRRV.MMMM	63	M	AJ251154.1	2703 ... 1747
737	OR1N1	0	1		MLGDSLLVTHLVLGVLV	85	R	AB038167.1	1 ... 933
738	OR2S2	0	9	40.13	MFAGCSIAVHLMTNFLV	83	M	AJ251154.1	2703 ... 1747
739	OR7E26P	4	1		MAGGELLDLHIMPAFGL	56	M	AF102536.1	22 ... 669
740	OR1F11	0			LAGNNGVNLHLIEGVM	99	R	M64377.1	1 ... 939
741	OR5ACnP	3	3	103.97	FGATCIIHHLIFSIQF	66	R	AF091575.1	52 ... 663
742	OR5B10P	2	13		MVATNGCNLRDLMSNVL	46	M	AF102528.1	52 ... 669
743	OR2AnP	1	12	85.7	TLAVCAFLVHLIACILG	76	M	AF102521.1	22 ... 669
744	OR1E5	0	13		MLGDSLLHLHLIMGILI	83	R	Y07557.1	1 ... 942
745	OR4Fn	0	6	185.71	IHGGMVLHFQFVNSICG	51	M	AB030896.1	1 ... 906
746	OR5CnP	0	9	40.53	MAADC.....	47	M	Y15525.1	1 ... 705
747	OR2WnP	0	6	31.62	LLGGCVSNIMQALAIIA	64	M	AF102516.1	52 ... 669
748	OR2L2	0			..IIIGINAHYVSSFLL	48	M	AF102537.1	16 ... 669
749	OR4H8P	2	14		MHGCI LGHVQLVNSISG	56	M	AF259072.1	104176 ... 105099
750	OR5D10P	5			LCVVTTWCTLFTSANES	44	R	AF010293.1	211 ... 1143
751	OR7A12P	1	14		MVIVSAMNIEMMSALGG	68	M	AF283558.1	1 ... 927
752	OR2L1	0			..IIIGINAHYVSTFLF	48	M	AF102527.1	22 ... 669
753	OR2F3P	0	14		LLGGFTSSVQIISSLLT	55	M	AF073974.1	41 ... 649

SEQ ID #	Symbol	D	C	Mb coord	CDR	%	S	Acc	Range
754	OR4H10P	2	15		MHGCI LGHVQLVNSISG	57	M	AF259072.1	104176 ... 105099
755	OR5H1	0			..IIILGHIHFVFSIQF	56	R	AF091575.1	52 ... 663
756	OR2K1	0			..IIIIITTLVCMVSLLI	58	M	AJ133428.1	61 ... 1017
757	OR7E11P	7	11		MAGGEFLDLHILPAFGL	52	M	AF073989.1	547 ... 1515
758	OR7A3P	1	11		MVIVSAMNIEMMSALGG	68	M	AF283558.1	1 ... 927
759	OR6A1	0	11		LLGCCGGIVKLDLAILG	91	R	M64386.1	130 ... 975
760	OR5I1	0	11		FCADSLGSHVFLYGVEI	52	M	Y15525.1	1 ... 705
761	OR2H3	0	6		ILGTCVIGVQSVASILV	86	M	AL078630.1	41097 ... 40165
762	OR10J1	0			MVGICGIVTQSTISVLV	73	M	X92969.1	8035 ... 8961
763	OR7E3P	3	11		MFACGVLDLHIIDSFGL	54	M	AF102536.1	22 ... 669
764	OR1D6P	1	11		LVVANLFYIHLTLGIFI	48	R	Y07557.1	1 ... 942
765	OR5D10P	2	18		LCVVTTWCTLFTSASES	45	R	U50948.1	34 ... 978
766	OR5D5P	2	18		LCVVTTWCTLFTSANES	46	M	AC073947.3	29192 ... 30115
767	OR52A1	0	11		MHQGSMVCLIGVAVAF	72	M	NM_013620.1	1 ... 945
768	OR2AEn	0	7	98.36	HLGGCMGNIHIVSSLLL	48	M	AC073769.1	143294 ... 142353
769	OR6LnP	7	10	149.44	LLSSCSSAVSLRAAILA	40	M	NM_010983.1	178 ... 975
770	OR6LnP	7	10	149.44	LLSSCSSAVSLRAAILA	41	M	NM_010983.1	178 ... 975
771	OR7MnP	7	10	149.44	.....NVYVSL.....	29	M	AC073947.3	43325 ... 42733
772	OR13Cn	0	9	86.77	MFGACGTDVQFMSNVLI	69	M	AJ133428.1	61 ... 1017
773	OR13Cn	0	9	86.85	MLGTGANVQFMATFTM	71	M	AJ133425.1	61 ... 1014
774	OR2InP	6			LLGSC.....	79	M	AL078630.1	151152 ... 150391

SEQ ID #	Symbol	D	C	Mb coord	CDR	%	S	Acc	Range
775	OR4An	0	11	50.28	LHGGVVGHFQVVNSICV	58	M	AB030895.1	1 ... 924
776	OR2InP	3			.....RRRRRMARILL	77	M	AL078630.1	151152 ... 150391
777	OR4AnP	4	11	50.28	LHGGVVGSGFQVVNGICV	53	M	AB030896.1	1 ... 906
778	OR4AnP	7	11	50.28	PHGGAVAHFQVVNGICV	57	M	AB030896.1	1 ... 906
779	OR8C1P	2	11		LCVHCGMGVHCMIVVVV	72	M	AC068905.1 2	76922 ... 75948
780	OR4AnP	1	11	50.28	LHGDVVGHFQVVNGICV	56	M	AB030896.1	1 ... 906
781	OR7E15 P	5	11		MAGGELQDVHIMPAFGL	54	M	AF073989.1	547 ... 1515
782	OR10A1	0	11		MFGVCAPVVQWAGTVVI	76	M	AF247657.1	1 ... 945
783	OR2An	0			TSAVCTCLVHLI.....	70	M	AF102521.1	22 ... 669
784	OR7EnP	6			MAGGELFHLHIMPAFGL	57	M	AF073989.1	547 ... 1515
785	OR7En	0			MAGGDFLDLHIVPAFVL	54	R	AF091580.1	7 ... 663
786	OR51A1 P	5	11		MHTLSARLPLLAVITFL	43	R	AF079864.1	632 ... 1576
787	OR7E47 P	4			KAGTNLLDLYIMPTFGL	56	M	AF073989.1	547 ... 1515
788	OR5B5P	2	3		MAATNICNIHELVANIS	48	M	AF146372.1	509 ... 1456
789	OR1F10	0	3		MFVDNGVNLHLIEGVM	72	R	M64377.1	1 ... 939
790	OR8G2	0			..IIIGLGIHFVLSNIT	75	M	AF102518.1	52 ... 669
791	OR1Sn	0	11	54.08	MIVVNILITHLLVGVIF	55	M	AC073769.1	133488 ... 132556
792	OR4AnP	3	11	50.73	LHGGAVGHFQVVSGLCV	56	M	AB030896.1	1 ... 906
793	OR4AnP	7	11	50.76	LHGGILGHFQVVNGMCV	58	M	AB030896.1	1 ... 906
794	OR4AnP	5	11	50.66	LHGGVLGHFQVVNGMRV	56	M	AB030896.1	1 ... 906
795	OR4AnP	7	11	50.73	PHGGVVGFRFQVVKVICV	54	M	AB030896.1	1 ... 906
796	OR4AnP	1	11	50.81	LHGGIVGHFQVVS GMCV	60	M	AB030896.1	1 ... 906
797	OR4AnP	10	11	50.81	LHGGVVGNFQVVNGICV	55	M	AF102522.1	40 ... 660
798	OR4An	0	11	50.73	LHAGVAGHVQFMNGICV	62	M	AB030895.1	1 ... 924
799	OR4An	0	11	50.73	LHGGVVGHVQFVNGICV	57	M	AB030896.1	1 ... 906
800	OR7E42 P	4			MAGGELQDVHIMPAFGL	54	M	AF073989.1	547 ... 1515

SEQ ID #	Symbol	D	C	Mb coord	CDR	%	S	Acc	Range
801	OR2M3P	2			ITLGCFLDIDALCCMIF	55	M	AF102537.1	16 ... 669
802	OR4H11P	2	4		MHGCILGHVQLVNSISG	57	M	AF259072.1	104176 ... 105099
803	OR7E57P	5			MAXGEFLDLHILPAFGL	51	M	AF102536.1	22 ... 669
804	OR2B1P	0	5		LLGAYATNWLLLVSFHI	78	R	L34074.1	73 ... 1011
805	OR7E34P	2			MAGGDSLDLHIMPAFGL	56	M	AF073989.1	547 ... 1515
806	OR7E56P	4			MAGDELFFLHILPAFGL	52	M	AF073989.1	547 ... 1515
807	OR3AnP	1	5		LHAGCACNTHALAAMAA	49	M	AF073967.1	2 ... 649
808	OR4H5P	2	5		MHGCILGHVQLVNSISG	56	M	AF259072.1	104176 ... 105099
809	OR1En	0	5		MLGDSLLHLHLIMGILI	82	R	Y07557.1	1 ... 942
810	OR51CnP	2	11	3	MKTVSYYYIXQ.....	48	M	AF121975.1	50 ... 1012
811	OR2WnP	2	6	30.51	LLGGCVSNIMQALAIIA	64	M	AF102516.1	52 ... 669
812	OR51B1P	5	11		AHSVSGRSPVRPLITIL	68	M	AF071080.2	15931 ... 16851
813	OR7E81P	3			MAGGEFFSLHIMPAFGL	54	M	AF102536.1	22 ... 669
814	OR7E44P	1			MAGGELFDLHIMLAFGL	53	M	AF073989.1	547 ... 1515
815	OR5B7P	2	6		MAATNICNIHELVANIS	47	M	NM_013728.1	1 ... 948
816	OR7E36P	4			MAGGELFFLHIMPAFGL	58	M	AF073989.1	547 ... 1515
817	OR2A5	0	7		TMAHCTCLVHLIASILG	74	M	AF102521.1	22 ... 669
818	OR5B1P	2	8		MAATNICNIHELVANIS	47	M	AF146372.1	509 ... 1456
819	OR8B8	0	11	137.68	LLVVSGMGAHCVVVDIV	72	M	AC069559.8	120212 ... 119283
820	OR8B4P	0	11	137.71	LCVNCGVGAHSFVVITL	87	M	AC068910.2 1	133103 ... 132162

SEQ ID #	Symbol	D	C	Mb coord	CDR	%	S	Acc	Range
821	ORnP	15	11	137.77	LCVENRRRTATHCKSHII	35	M	AC069563.9	60295 ... 59327
822	OR8B3	0	11	137.77	LLVICAMGAHCVVNIV	85	M	AC069563.9	129775 ... 130725
823	OR2Bn	0	6	30.51	LLGSCASNQWLISFLI	89	R	L34074.1	73 ... 1011
824	OR8B6P	6	11	137.77	LAFFCGLSAHCVA AVI	73	M	AC069559.8	96224 ... 95292
825	OR8B5P	6	11	137.77	LFFFXGLGAHCVVANTV	73	M	AC069559.8	96224 ... 95292
826	OR4E2	0	14	1.7	LHACIAGHGQLINSISS	90	M	AF259072.1	104176 ... 105099
827	OR8B7P	4	11	137.77	FCVICGWGAHCVA AIFV	71	M	AC069559.8	96224 ... 95292
828	OR11Jn P	3	15	1.82	FSCAGFGSMPLCVSIII	56	M	AF121972.1	171 ... 1109
829	OR4E1P	3	14	1.7	MHACIAGHALLINSISV	92	M	AB030893.1	37 ... 930
830	OR10Dn P	7	11	137.96	.....HHHILLGNVLSI	85	M	AC074177.4	12106 ... 13038
831	ORnP	10	14	1.7	VFRGGFHKFFF.....	23	M	AF102536.1	22 ... 669
832	OR8D2	0	11	137.77	LLVIGVLVWHRLIGNTA	70	M	AC073947.3	29192 ... 30115
833	OR11In P	1	1	126.31	FGAACGCLITLATSVTI	51	M	AL359381.1	175785 ... 176720
834	OR11Jn P	1	15	1.82	FSCACFGWTPLCISIIL	56	M	AF121972.1	171 ... 1109
835	OR10An P	3	11	5.64	MFGVCTPVVQWAGTVVI	74	M	AF247657.1	1 ... 945
836	OR8C3P	5	11	137.77	LCVHCGMGVHCMIVVVV	73	M	AC068905.1 2	76922 ... 75948
837	OR2DnP	6	11	5.64	LLGCCGSVVDFITGILI	62	M	AF073987.1	2 ... 649
838	OR4PnP	0	11	51.03	LHGGIVGHSQ L.....	59	M	AB030895.1	1 ... 924
839	OR7E21 P	5			MAGGEFIDLHIMPAFGL	50	M	AF073989.1	547 ... 1515
840	OR2M1	0			IVLGCFLDIYAICSM LF	55	M	AF102537.1	16 ... 669
841	OR7AnP	4	19		NLAGVVMNLQM.....	63	M	AF073970.1	41 ... 649

SEQ ID #	Symbol	D	C	Mb coord	CDR	%	S	Acc	Range
842	OR5D11 P	1	8		LCVVTTWCTLFTSANES	44	R	AF010293.1	211 ... 1143
843	OR7E50 P	7	8		IVVCDMLDLHVFLDIFL	57	M	AF102536.1	22 ... 669
844	OR7E45 P	3			MAGGELFDLHIMPAFGL	54	M	AF073989.1	547 ... 1515
845	OR7E77 P	6			MAGGEFLDLHIMPAFGL	51	M	AF073989.1	547 ... 1515
846	OR8B2	0	11	137.77	LLVICAMGAHCVVNVIV	84	M	AC069563.9	129775 ... 130725
847	OR8D1	0	11	137.77	LVVVGALSTHALIANTV	87	M	AC073947.3	29192 ... 30115
848	OR8B1P	4	11	137.77	LLLVCGMGAHCVVNVIV	84	M	AC069559.8	96224 ... 95292
849	OR7A1P	2	19		MIVVSVVYLQMMTSLGG	72	R	M64376.1	1 ... 999
850	OR7E8P	4	8	13.72	MVACGVLDLHIIDSFGL	53	M	AF102536.1	22 ... 669
851	OR4DnP	7	11	55.86	MHGGVAGHVQLMNNISL	58	M	AC019272.4	183633 ... 182701
852	OR7E80 P	7	8	13.72	MAGGELQDVHIMPAFGL	54	M	AF073989.1	547 ... 1515
853	OR4DnP	5	11	55.86	MHGGGAAGHVQLMNNLTL	62	M	AC019272.4	183633 ... 182701
854	OR7E10 P	8	8	13.72	IVACDLLDLHIIDSFGL	55	M	AF073989.1	547 ... 1515
855	OR10B1 P	3	19	17.91	MLGCCLSVIEMILSVVM	85	M	AC012302.5	54283 ... 55224
856	OR2InP	3			.....LLLLMARILL	75	M	AL078630.1	151152 ... 150391
857	OR4Dn	0	11	55.86	MHGGVGGHAQLMNNVSF	65	M	AC019272.4	183633 ... 182701
858	OR5ACn	0			.VVVVIIHVHLIFGIQP	65	R	AF091575.1	52 ... 663
859	OR2I1	0	6	33.63	LLGSCASNAQLMARILL	79	M	AL078630.1	151152 ... 150391
860	OR10H1	0	19	19.86	MFGFSCGMVVAGLVTAL	88	M	AC023604.2	245345 ... 246298

SEQ ID #	Symbol	D	C	Mb coord	CDR	%	S	Acc	Range
861	OR7E59 P	5			CPEARVFLHIMPAFGL	53	M	AF102536.1	22 ... 669
862	OR7E28 P	4			MAGGELLDLHIMPAFGL	54	M	AF073989.1	547 ... 1515
863	OR5B3	0			MVATNGCNIHDLVVNII	51	R	U50948.1	34 ... 978
864	OR2A6	0			TLAHCAFLVPLIACILG	75	M	AF102521.1	22 ... 669
865	OR6Cn	0			.VVVVCAIPPLVMAALI	47	M	NM_010991.1	1 ... 939
866	OR7E54 P	5			MAGGEFLDLHIMPAFGL	52	M	AF073989.1	547 ... 1515
867	OR7E48 P	3			MAGGEFLDLHIMPAFGL	57	R	AF091580.1	7 ... 663
868	OR67An P	3	11	76.42	MHSCAGTLPAQGIAVSL	83	R	AF091561.1	52 ... 663
869	OR4DnP	1	11	55.86	MHGGVAGHVQLMNNLTL	63	M	AC019272.4	183633 ... 182701
870	OR4CnP	1	11	50.91	VHGCILGHAQLLNSICS	57	M	AB030896.1	1 ... 906
871	OR4DnP	2	11	55.86	IHGGIAGHVQLMNNVTL	65	M	AC019272.4	183633 ... 182701
872	OR10H2	0	19	19.94	MFGFSCGMVVAGLVMAL	85	M	AC023604.2	245345 ... 246298
873	OR10H3	0	19	19.94	MFGFSWGMVMGLVTAI	75	M	AC023604.2	214343 ... 213396
874	OR55Cn P	2	11	2.65	VYLLYLQPGGG.....	45	M	AF121980.1	160 ... 1053
875	OR55Bn P	3	11	2.65	.VVVVLQVPLLGMCTVS	53	M	AF121980.1	160 ... 1053
876	OR52Vn P	4	11	4.19	LHNHIMVYXFLGTTSP	48	M	NM_013619.1	118 ... 969
877	OR2B3	0	6	33.64	LLGACFINLQLLFSILI	75	R	L34074.1	73 ... 1011
878	OR52Tn P	6	11	4.22	FGHFLIFLDFLDILTIS	45	M	AF121975.1	50 ... 1012
879	OR2J1P	5	6	33.64	LLGTCASTLHFLMSFVI	57	R	L34074.1	73 ... 1011
880	OR52Hn P	3	11	4.19	LHFVSGRVPCLGVPVT	60	M	AF121975.1	50 ... 1012

SEQ ID #	Symbol	D	C	Mb coord	CDR	%	S	Acc	Range
881	OR2J3	0	6	33.64	LLGTCASNLHFLTSFVI	58	R	L34074.1	73 ... 1011
882	OR52An	0			FHSVS.....VVRLFS	75	R	AF079864.1	632 ... 1576
883	OR4Qn	0			.VVVVAGHMQLVNSLSV	56	M	AB030893.1	37 ... 930
884	OR52BnP	2	11	4.22	LHFVSVRTSILGVPSVL	60	M	AF121975.1	50 ... 1012
885	OR2N1P	9	6	33.64	LHGGCPIYSEALVCMLV	81	M	AJ132195.1	79 ... 906
886	OR51EnP	1			FHSASVRFPLLGAIAMV	90	R	AF079864.1	632 ... 1576
887	OR2J2	0	6	33.64	LLGICAIILHFLMSFVI	57	R	L34074.1	73 ... 1011
888	OR2In	0			.....RRRRRRMARILR	77	M	AL078630.1	151152 ... 150391
889	OR2J4P	5	6	33.64	LLGTCASNLHFLTSFVL	56	R	L34074.1	73 ... 1011
890	OR7E40P	4			MAGGDILDLYILPDFGL	55	M	AF073989.1	547 ... 1515
891	OR2H4P	3	6	33.64	LLGAYLTQIQAMASLLM	63	M	AL078630.1	41097 ... 40165
892	OR7E52P	5			IVVCDVLDLHVCDIFGL	61	M	AF073989.1	547 ... 1515
893	OR2InP	9			LLGSC.....	80	M	AL078630.1	151152 ... 150391
894	OR6C1	0			LIGVFTVIPALGCATLF	52	M	NM_010991.1	1 ... 939
895	OR7E30P	3			MAGGEFLDLHIMPAFGL	56	M	AF073989.1	547 ... 1515
896	OR5BAnP	0	11	53.69	LVVTSVFNIQNLFVTL	51	R	AF091579.1	7 ... 663
897	OR7H1P	3	19	11.38	MMGGTVLYIQLLVALDV	74	M	AF073989.1	547 ... 1515
898	OR5B2	0	11	54.45	MVATNGCNFHLTSNIF	47	R	U50948.1	34 ... 978
899	OR5AZnP	1	11	53.69	MIGTCTVNLLCILCLIF	48	R	AF091579.1	7 ... 663
900	OR5Bn	0	11	54.45	MVATNGCNIHDLVVNII	51	R	U50948.1	34 ... 978

SEQ ID #	Symbol	D	C	Mb coord	CDR	%	S	Acc	Range
901	OR52Bn	0	11	4.22	KILFSARIPSLGAASTL	64	M	NM_013619.1	118 ... 969
902	OR5BnP	2	11	54.45	MAATNICNIHELVANIS	49	R	U50948.1	34 ... 978
903	OR52Dn	0	11	4.19	MHYASVRIPFLGVAAML	66	M	AF121976.2	474 ... 1307
904	OR7A11	1	19	17.72	MVEASAILDLHMMAVLGV	67	M	AF283558.1	1 ... 927
905	OR5BnP	9	11	54.45	MAATSALTVDLLQFFL	41	M	NM_013728.1	1 ... 948
906	OR51AnP	5	11	4.19	THSWFSRMPLLGIVAFV	50	R	AF079864.1	632 ... 1576
907	OR7A15P	4	19	17.72	MIVGSVTHLHMMALGG	74	R	M64376.1	1 ... 999
908	OR7C2	0	19	17.72	IIGCNGIGLETMTVLGF	98	R	AF091580.1	7 ... 663
909	OR7E23P	7	21	20.89	MAGGELFHLQIMPAFGL	57	M	AF073989.1	547 ... 1515
910	OR2E1	8	6	32.05	AHACCTINLQI.RRRRR	43	M	AL078630.1	106872 ... 105934
911	OR1I1	0	19	17.87	MHGTSAIQIHLIFGVGS	57	R	AF091566.1	1 ... 663
912	OR1RnP	3	17	3.12	MVGISAVHLHLIEGVVA	45	R	M64377.1	1 ... 939
913	OR4F3	0	8	0.07	IHGGMVLHFQFVNSICG	51	M	AB030896.1	1 ... 906
914	OR2AEn	0	7	98.7	HLGGCMGNIHIVSLLL	49	M	AC073769.1	143294 ... 142353
915	OR2InP	7			.....TTTTTMARILL	72	M	AL078630.1	151152 ... 150391
916	OR52AnP	2			IHSASVRFP LLGXPPPP	94	R	AF079864.1	632 ... 1576
917	OR7C1	0	19		ITGCNGIGLETIATLGI	81	R	AF091580.1	7 ... 663
918	OR2A3P	2	7	149.11	MLAACTCLINLVGGVLG	63	M	AF102521.1	22 ... 669
919	OR7A5	0	19		MIAGNAMYLQMITVLGG	74	M	AF283558.1	1 ... 927
920	OR2InP	3			.....MARILL	67	M	AL078630.1	151152 ... 150391
921	OR7A10	0	19		MLVGNAMNLQMMAVLGG	76	R	M64376.1	1 ... 999
922	OR2An	0			.....	81	M	AF102521.1	22 ... 669
923	OR2M2	0			IISGCFDIDAICCM LF	57	M	AF102537.1	16 ... 669

SEQ ID #	Symbol	D	C	Mb coord	CDR	%	S	Acc	Range
924	OR7A8P	2	19		MLAVSSLNLQMIATLGG	71	M	AF283558.1	1 ... 927
925	OR2An	0			TSVCTTTLIHL.....	78	M	L14566.1	62 ... 667
926	OR7E20P	4			MAGGELLFLHIMPAFGL	56	M	AF073989.1	547 ... 1515
927	OR2AnP	3			TLAHTCTLVHL.....	65	M	AF102521.1	22 ... 669
928	OR5BhnP	7			MVASC GGKTVS.....	34	M	Y15525.1	1 ... 705
929	OR1En	0			LMGDSLLHLHLIMGISI	92	M	AC068902.1 1	196434 ... 195499
930	OR1EnP	1			MLGDSLLHLHLIIGVVL	98	M	AF073976.1	32 ... 649
931	OR5Bn	0	11	54.45	FVITSGCNIHNIVVND	51	R	U50948.1	34 ... 978
932	OR8RnP	12	11	73.74	LFLSYGGGAHH.....	52	M	AC069561.1 0	7848 ... 8783
933	OR5ANn	0	11	55.69	YSGLSGTAFQATLTFGA	55	R	AF091564.1	7 ... 663
934	OR5ANn P	1	11	55.69	YSGLCGTGIQATLTFGT	59	M	Y15525.1	1 ... 705
935	OR5BRn P	8	11	55.69	MSNVC GTVIQATLTFGT	33	M	Y15525.1	1 ... 705
936	OR2A1	0	7	149.18	TLGHCTCLAHLIACFLG	77	M	AF102521.1	22 ... 669
937	OR10An	0	11	6.81	MLGGCFLVQWAGTIIV	54	M	AF247657.1	1 ... 945
938	OR2A9	3	7	149.18	TLAHTCTLVHLIACILG	78	M	AF102521.1	22 ... 669
939	OR2A7	0	7	149.18	TSVCTTTLIHLVGAGLG	81	M	L14566.1	62 ... 667
940	OR10A3	0	11	6.81	MLGGCFVQWAGTIVV	58	M	AF247657.1	1 ... 945
941	OR10Cn	0	6	33.36	MLGACSCVGHFIATLIC	59	M	AL365336.1	122764 ... 121784
942	OR7A2P	0	19		MVIVSVMNLQVMAALDG	73	M	AF283558.1	1 ... 927
943	OR10Wn P	2	11	54.3	MIGSCASLQLFVAAAIV	47	M	AC012302.5	54283 ... 55224
944	OR7A17	0	19		MVGGSAINSOMMAALAG	76	M	AF283558.1	1 ... 927
945	OR5Bn	0	11	54.3	MAATNGINIQDLISNVF	47	M	AF102528.1	52 ... 669
946	OR5BnP	5	11	54.3	MVATNGCNLRDLMSNVL	47	M	AF102528.1	52 ... 669

SEQ ID #	Symbol	D	C	Mb coord	CDR	%	S	Acc	Range
947	OR1Q1	0	9	106.13	TIAVNMLHLHLIEGVIG	54	M	AF073967.1	2 ... 649
948	OR2Hn	0	6	33.33	LLGTCVMQVQSLSSFVV	88	M	AL078630.1	48786 ... 47851
949	OR7EnP	5	3	90.04	MVACDVLDLHIIDSFGL	54	M	AF073989.1	547 ... 1515
950	OR7A14	0	19	17.72	MVIVSAMNI.....	71	M	AC073772.1	227187 ... 226252
951	OR1B1	0	9	106.13	FYGVTLVHLRLIEGLMG	49	M	AC068902.1 1	83719 ... 84647
952	OR12D2	0	6	33.23	LHGSSTIHLHMLVTIAG	81	M	AL359381.1	105330 ... 104407
953	OR7EnP	4	3	11.92	MVACDVLDLHIIDSFGL	55	M	AF073989.1	547 ... 1515
954	OR8BnP	5	15	74.31	LXVVEGMAHCVVVNIV	82	M	AC069559.8	96224 ... 95292
955	OR1L1	0	9	106.13	MLGNSLIHLHLVEGVIT	57	M	AC023167.7	60743 ... 61663
956	OR11An	0	6	33.36	FGATCTSVLVLTLSCLI	76	M	AL359381.1	175785 ... 176720
957	OR7AnP	4	12	44.29	....HLLDCYIRTTLSG	55	M	AF102534.1	52 ... 669
958	OR1C1	0	1	254.35	LVVNSGVHLHLIVGLAT	56	M	AC073769.1	133488 ... 132556
959	OR1D2	0	17	2.99	LVVANLLYIHLTGIFI	50	M	AF073967.1	2 ... 649
960	OR1L3	0	9	106.13	MLGNSFFHLHLAEGSVA	53	M	AC023167.7	14677 ... 15636
961	OR12Dn P	1	6	33.36	LHGSATIHLMSTGIAG	76	M	AL359381.1	105330 ... 104407
962	OR4G1P	4	16	83.04	KHGGMAIHSQFVNSISG	47	M	AB030896.1	1 ... 906
963	OR2B4P	1	6	33.53	LLGSCGSNVQLLLGLLM	90	M	AL359352.1	95024 ... 95965
964	OR11H1	0	22		FFGTCLCWIPLCLSVIG	61	M	AC027184.3	54955 ... 54017
965	OR4Fn	0	16	83.04	IHGGMVIHSQFVNSLTC	50	M	AC019272.4	62255 ... 61317
966	OR56An P	5	11	4.73	MNLPSFQLPVLQAGFLS	38	M	AF121975.1	50 ... 1012

SEQ ID #	Symbol	D	C	Mb coord	CDR	%	S	Acc	Range
967	OR8NnP	7	4	164.13	REIIRVDAFLKKTANMI	34	M	AF102528.1	52 ... 669
968	OR7EnP	5			MVACDVLDLHIFDFGL	54	R	AF091580.1	7 ... 663
969	OR4Pn	0	11	50.95	LHGGIVGHSQLVNSIAV	56	M	AB030895.1	1 ... 924
970	OR6Cn	0			LIGVFCSTPPLGFATLF	51	M	NM_010991.1	1 ... 939
971	OR5BCnP	2	11	54.3	.....GCQIHFLLANIF	41	M	AC069561.10	51687 ... 50743
972	OR10QnP	4	11	54.3	MLGGCGLLQLLLVSFLV	48	M	AC012302.5	54283 ... 55224
973	OR5BnP	6	11	54.3	TDASNGGNIHELVTNIF	45	R	U50948.1	34 ... 978
974	OR10PnP	2	12	115.61	MIGICTTTTHLVATFII	46	M	AF247657.1	1 ... 945
975	OR1L4	0	9	106.22	MMGNSGIHFRLVETVIT	62	M	AF073967.1	2 ... 649
976	OR2APnP	3	12	115.61	YMGAFLLLLLL.....	49	M	AF073987.1	2 ... 649
977	OR1L6	0	9	106.22	MMGNSGIHFRLVETVIT	63	M	AF073967.1	2 ... 649
978	OR6UnP	6	12	115.61	DIGAFTLFMPLDLAALG	52	M	NM_010991.1	1 ... 939
979	OR5C1	0	9	106.06	MAADCAGSVHLLICIQA	50	R	X80671.1	203 ... 1129
980	OR11InP	1	15	70.72	FGAACGCLITLATSVTI	51	M	AL359381.1	175785 ... 176720
981	OR4AnP	6	11	50.78	LYGGVVGHFQVNVGCV	57	M	AB030896.1	1 ... 906
982	OR4GnP	14	2	114.45	ICRKMAVHSQFVNSISA	42	M	AB030892.1	1 ... 939
983	OR10Vn	0	11	56.15	MVGGCGLLPLLLISVLI	48	M	AL136158.14	29455 ... 30402
984	OR4G2P	2	2	114.45	KHGGMAIHSQFVNSISG	48	M	AB030896.1	1 ... 906
985	OR10VnP	3	11	56.15	MIGRCGLLQLLMVSFLV	45	M	X92969.1	8035 ... 8961
986	OR4F4	0	2	114.45	IHGGMVIHSQFVNSLTC	50	M	AC019272.4	62255 ... 61317
987	OR4G3P	14	19	63.51	ICRKMAVHSQFVNSISA	42	M	AB030892.1	1 ... 939
988	OR5AKnP	4	11	52.82	LGATCSMNINFLFVNLC	65	R	U50948.1	34 ... 978
989	OR10YnP	14	11	56.15	MIRGCGLLFLLLCGHHL	43	M	AF247657.1	1 ... 945
990	OR4GnP	2	19	63.51	KHGGMAIHSQFVNSISG	48	M	AB030896.1	1 ... 906

SEQ ID #	Symbol	D	C	Mb coord	CDR	%	S	Acc	Range
991	ORnP	9	5	111.92	IMCSRTTYVXQLHGFFT	23	M	AF073989.1	547 ... 1515
992	OR4Fn	0	19	63.51	IHGGMVIHSQFVNSLTC	50	M	AC019272.4	62255 ... 61317
993	OR8A1	0	11	137.56	LLVICVIGIELVSANIV	61	M	AC069559.8	96224 ... 95292
994	OR8Bn	0	11	137.56	LCVVSGMGAHSVVDVM	66	M	AC069559.8	120212 ... 119283
995	OR6DnP	3	10	47.91	AYVSSLLLRTH.....	55	R	AF034901.1	2110 ... 3078
996	OR7E14 P	7	11	16.31	MAGGELDLHIMPAFGL	58	R	AF091580.1	7 ... 663
997	OR2M4	0			IVLGCALDIVALCCMLF	57	M	AF102537.1	16 ... 669
998	OR4WnP	3	X		LLLLL.....LLFFII	36	M	AC069559.8	73704 ... 74636
999	OR4Fn	0	19	63.51	IHGGMVIHSQFVNSLTC	50	M	AC019272.4	62255 ... 61317
1000	OR7EnP	3			MAGGESLDLHIMPAFGL	57	M	AF073989.1	547 ... 1515
1001	OR4GnP	4	19	63.51	KHGGMAIHSQFVNSISG	47	M	AB030896.1	1 ... 906
1002	OR10Jn P	1			LLGVCGITIQSTISVLL	60	M	X92969.1	8035 ... 8961
1003	OR52En	0	11	4.58	MHTASIRMPLLGNILL	71	M	AF121979.1	53 ... 1106
1004	OR4RnP	24	11		VHGAIMGHVXSFANNCL	54	M	AF102522.1	40 ... 660
1005	OR4Cn	0	11		AHGAIVGHIQFVNSICL	75	M	AF102522.1	40 ... 660
1006	OR4AnP	10	11		GLGGIVGHIQL.....	44	M	AF102522.1	40 ... 660
1007	OR4AnP	4	11		LHGGVAGHFQVVGCCI	55	M	AB030895.1	1 ... 924
1008	OR4AnP	8	11		LHGGVAGHSHSVNGICV	54	M	AF102522.1	40 ... 660
1009	OR9Gn	0	11	52.54	FAAYCVGNIKMLLNVC	46	M	AC074177.4	106297 ... 105361
1010	OR10An	0	12	59.65	MFGSCGSVLQWASTFIF	64	M	AF247657.1	1 ... 945
1011	OR4Cn	0	11		VHRGVVGHIQFINSICL	73	M	AF102522.1	40 ... 660

SEQ ID #	Symbol	D	C	Mb coord	CDR	%	S	Acc	Range
1012	OR10Vn P	8	11	56.15	.FFFFIIXNEXSVVVLV	37	M	AC073945.4	110931 ... 111893
1013	OR10Un P	3	12	59.65	MAGLCATVAQLMLSFIS	56	R	AF034898.1	1 ... 981
1014	OR7E2P	3	11	90.37	MVACDVLDLHICDIFGL	59	M	AF073989.1	547 ... 1515
1015	OR7E35 P	6	4	11.87	MAGGEFLDLHIVPAFVL	53	M	AF102536.1	22 ... 669
1016	OR9KnP	0	12	59.71	LAIVGGCSLQVSLSIIP	49	R	AF091579.1	7 ... 663
1017	OR7E13 P	5	11	90.37	MAGGEFLDLHIMLAFGL	54	R	AF091580.1	7 ... 663
1018	OR7EnP	4	8	6.5	MLACGVLDLHIIDSFGL	55	M	AF102536.1	22 ... 669
1019	OR9Kn	0	12	59.71	LAIVGGCSIQMSLSIIP	49	M	NM_013728. 1	1 ... 948
1020	ORnP	13	11	137.56	PCVIYGIDVHSLXEPAY	34	M	AC069559.8	36251 ... 35322
1021	OR7EnP	8	11	72.11	MAGGNLFFSLLMPAFGL	54	M	AF073989.1	547 ... 1515
1022	OR7EnP	5	3	140.64	MAGGKFLDLHIMPAFGL	53	M	AF073989.1	547 ... 1515
1023	OR3A4P	0	17	3.12	LHAGCMFNTQALAAMGA	44	M	AC073769.1	133488 ... 132556
1024	OR8QnP	9	11	137.56	LSIIIVETEFVFTXIVT	33	M	AC069559.8	137090 ... 138039
1025	OR7EnP	2	11	72.11	ILACGVLDLHIMHNFGGL	55	M	AF073989.1	547 ... 1515
1026	OR7EnP	3	3	140.64	MVACGVLDLHIIHSFGL	56	M	AF073989.1	547 ... 1515
1027	OR3A1	0	17	3.07	LHVGCACNTHALVGMAT	50	M	AF073967.1	2 ... 649
1028	OR5Gn	0	11	52.52	MGEACGMSTHFLLAIGL	69	M	AF146372.1	509 ... 1456
1029	OR5MnP	7	4	42.45	LIIIVVYNAQRRIIMLE	39	M	AF073987.1	2 ... 649
1030	OR7EnP	1	3	136.02	MVACDVLDLHIIDNFGGL	54	M	AF073989.1	547 ... 1515
1031	OR5G1P	2	11	52.51	QGVACGINTHNVVAVGF	68	M	AF146372.1	509 ... 1456
1032	OR5PnP	3	11	6.93	LVGTCAGNSFCPSSVLS	70	M	AF121977.1	262 ... 1197

SEQ ID #	Symbol	D	C	Mb coord	CDR	%	S	Acc	Range
1033	OR10AEnP	8	1	157.36	IIIIIGIMVIVQIHCVV	40	M	X92969.1	8035 ... 8961
1034	OR3A2	0	17	3.07	LHAGCACNTHALVGMAT	50	M	AC073769.1	133488 ... 132556
1035	OR10Jn	0	1	157.4	MVATCGIMLHANVSVIV	88	M	X92969.1	8035 ... 8961
1036	OR1D3P	2	17	2.94	LVVANLFYIHLTLTGIFI	50	R	Y07557.1	1 ... 942
1037	OR10Jn	0	1	157.36	TVAICGIMVQSNVRVIV	72	M	X92969.1	8035 ... 8961
1038	OR1D4	0	17	2.99	LVVTNLLYLLLLTGIFT	49	R	Y07557.1	1 ... 942
1039	OR5GnP	8	11	52.51	QGVVYVANTHAVVAVLV	55	M	NM_013728.1	1 ... 948
1040	OR4SnP	1	11	50.99	LHGCIGGHIQLVNSIAG	61	M	AB030895.1	1 ... 924
1041	OR5GnP	4	11	52.51	LGVVCGVSTHFLVLGL	75	M	AF146372.1	509 ... 1456
1042	OR9HnP	2	1	254.35	FSGIAGWNAQMLLCIIS	59	R	AF091579.1	7 ... 663
1043	OR1A1	0	17	2.99	MIGNSGINPHLMGVIFV	86	M	AF073966.1	41 ... 643
1044	OR1A2	0	17	2.99	MIAKSGISPHMLGVFL	80	M	AF073966.1	41 ... 643
1045	OR8AnP	6	11	137.68	FLVICVMVIELVFANLI	50	M	AC069561.10	51687 ... 50743
1046	OR1P1P	1	17	2.99	LLGDIALLTRLLLGVII	82	M	AF102538.1	139 ... 675
1047	OR7E12P	7	11	1.92	MAGGEFFSLHIMPAFGL	55	M	AF073989.1	547 ... 1515
1048	OR4A1P	4	11		LHGGVVGHFQVNGICV	57	M	AB030896.1	1 ... 906
1049	OR10G3	0	14	1.7	LHGSCGAHLQLTDIVVS	91	M	AF259072.1	19582 ... 18644
1050	OR10G1P	3	14	1.7	LHGSCGAHIQLTDIVAS	93	M	AF259072.1	55611 ... 54658
1051	OR10G2	0	14	1.7	LHGSCGAHIQLTDVVAS	91	M	AF259072.1	55611 ... 54658
1052	OR5Tn	0	11	51.94	MVGTCAAHIHALFVIEV	52	M	AF121977.1	262 ... 1197
1053	OR7EnP	8	3	136.02	MVACGVLDLHIIGSFGL	53	R	AF091580.1	7 ... 663
1054	OR7EnP	5	3	136.02	MAGGKFLDLHIMPAFGL	54	M	AF073989.1	547 ... 1515
1055	OR4AnP	2	11	50.93	LHAGVVGHVQFMNGICV	61	M	AB030895.1	1 ... 924
1056	OR4C1	1	11	50.93	LHGGIIGHVQFVNSMCL	66	M	AB030896.1	1 ... 906

SEQ ID #	Symbol	D	C	Mb coord	CDR	%	S	Acc	Range
1057	OR1EnP	7	17	2.9	.....MMYTLMIGILI	80	M	AF073961.1	32 ... 649
1058	OR7KnP	11	14	5.99	MIGCNFIELYMMIGIFG	49	R	AF091580.1	7 ... 663
1059	OR4CnP	3	11	50.93	LHDGIEGHIQFVNSMCA	61	M	AF102522.1	40 ... 660
1060	OR1RnP	11	17	2.9	MVGISAVHLHLIEGVVA	44	R	M64377.1	1 ... 939
1061	OR5AUn	0	14	1.22	MAATCGANIHCFLFANLS	51	M	AC069559.8	85584 ... 84655
1062	OR4Cn	0	11	50.96	LHAGVVGHIQFVNSICI	69	M	AF102522.1	40 ... 660
1063	OR4Cn	0	11	50.96	VHGCIVGHVQLLSICV	57	M	AB030895.1	1 ... 924
1064	OR13Dn P	2	9	86.89	MLGSCWITLRLFTVIVL	58	M	AJ251154.1	2703 ... 1747
1065	OR5n				ASASLTSYVHNNEEVFV	44	M	AL359352.1	111313 ... 112242
1066	OR2Hn				LLGTCVMQVQSLSSLVV	83	M	AL078630.1	48786 ... 47851
1067	ORn				.....	25	M	AC074177.4	88434 ... 88916
1068	ORn				.....EINLLLARGKAL	29	M	AF283814.1	1 ... 930
1069	ORn				NNNNNFXXSLHLCCCILI	29	M	AC074177.4	128803 ... 129726
1070	ORn				TLLLLTFQHHL.....	27	M	L14569.1	62 ... 667
1071	OR6Fn				..CCCWPIPTSAIAVIS	46	R	M64386.1	130 ... 975
1072	ORn				.....ILLLLL	33	R	U50947.1	418 ... 1350
1073	ORn				..CCCLIPFFFTSGYSW	24	R	M64392.1	1 ... 942
1074	OR10An				PLGECDPPEEQMYVGLVM	51	M	AF247657.1	1 ... 945
1075	ORn				IPNASRRRRRR....PP	25	R	M64388.1	1 ... 942
1076	OR2Ln				FLAGAGINAHYVSTFLF	51	M	AF102527.1	22 ... 669
1077	OR10Jn				LTGICGIMVQSNVSVLL	57	M	X92969.1	8035 ... 8961
1078	OR1Kn				LLLLLMVNLYLIKGVVT	50	R	M64377.1	1 ... 939
1079	OR10Dn				LHGSCGLHILLSNVISG	69	M	AC074177.4	12106 ... 13038
1080	ORn				.....CCCI II	41	R	M64376.1	1 ... 999

SEQ ID #	Symbol	D	C	Mb coord	CDR	%	S	Acc	Range
1081	OR2Ln				SLACGGLNAHFVRTLSF	52	M	AF102537.1	16 ... 669
1082	ORn				HHHHHRLESSLLLLLL	38	M	AC073945.4	152209 ... 153150
1083	ORn				.....LLLLLS	27	M	AL365336.1	41087 ... 41711
1084	OR2n				.....GGGGGG	57	M	AF102521.1	22 ... 669

5 Although the foregoing invention has been described in some detail by way of illustration and example for purposes of clarity of understanding, it will be apparent to those skilled in the art that various changes and modifications can be practiced without departing from the spirit of the invention. Therefore the foregoing descriptions and examples should not be construed as limiting the scope of the invention.

10

All patents, patent applications, and publications cited herein are hereby incorporated by reference in their entirety. In particular, the following documents are hereby incorporated by reference in their entirety: United States Provisional Patent Applications Serial Nos. 60/145,412, filed July 23, 1999; 60/155,126, filed September 22, 1999; 60/158,495, filed October 8, 1999; 60/158,615, filed October 8, 1999; 60/181,113, filed February 8, 2000; 60/181,115, filed February 8, 2000; 60/184,809, filed February 24, 2000; 60/188,332, filed March 9, 2000; and United States Patent Applications Serial Nos. 09/620,753, filed July 21, 2000; and 09/621,122, filed July 21, 2000.

**CLAIMS**

What is claimed is:

- 5           1.     An isolated and purified polynucleotide sequence encoding an olfactory receptor and having the nucleotide sequence selected from the group consisting of SEQ ID NO:1 through SEQ ID NO: 73 and SEQ ID NO:111 through SEQ ID NO:152, or a nucleotide sequence that is at least about 95% homologous to a nucleotide sequence of the group consisting of SEQ ID NO:1 through SEQ ID NO: 73 and SEQ ID NO:111 through  
10   SEQ ID NO:152 and encoding a polypeptide having olfactory receptor function.
2.     An expression vector comprising a polynucleotide sequence of claim 1.
3.     A host cell comprising the expression vector of claim 2.
- 15           4.     An isolated and purified olfactory receptor polypeptide comprising the translated sequence of SEQ ID NO:1 through SEQ ID NO: 73 and SEQ ID NO:111 through SEQ ID NO:152, or a polypeptide sequence that is at least about 95% homologous to a polypeptide sequence of the group consisting of the translated sequence of SEQ ID  
20   NO:1 through SEQ ID NO: 73 and SEQ ID NO:111 through SEQ ID NO:152 and having olfactory receptor function.
5.     A host cell expressing a polypeptide of claim 4 or a functional fragment thereof.
- 25           6.     A phage expressing a polypeptide of claim 4 or a functional fragment thereof.
7.     A preparation containing a polypeptide of claim 4, further comprising  
30   biological or synthetic molecules which maintain the functional structure of the polypeptide.

8. An isolated and purified polynucleotide sequence encoding an olfactory receptor and having the nucleotide sequence selected from the group consisting of SEQ ID NO: 153 through SEQ ID NO: 1084 or a nucleotide sequence having a sequence at least about 95% homologous to a nucleotide sequence of the group consisting of SEQ ID NO: 153 through SEQ ID NO: 1084 and encoding a polypeptide having olfactory receptor function.
9. An expression vector comprising a polynucleotide sequence of claim 8.
10. A host cell comprising the expression vector of claim 9.
11. An isolated and purified olfactory receptor polypeptide comprising the sequence of SEQ ID NO: 1085 through SEQ ID NO: 2008, or a polypeptide sequence that is at least about 95% homologous to a polypeptide sequence of the group consisting of SEQ ID NO: 1085 through SEQ ID NO: 2008 and having olfactory receptor function.
12. A host cell expressing a polypeptide of claim 11 or a functional fragment thereof.
13. A phage expressing a polypeptide of claim 11 or a functional fragment thereof.
14. A preparation containing a polypeptide of claim 11, further comprising biological or synthetic molecules which maintain the functional structure of the polypeptide.
15. A library of olfactory receptors suitable for determining the interaction pattern of a composition with the receptors, comprising the expression products of at least two polynucleotides of SEQ ID NO: 1 through SEQ ID NO: 73, SEQ ID NO: 111 through SEQ ID NO: 152, and SEQ ID NO: 153 through SEQ ID NO: 1084 wherein said polynucleotides encode functional olfactory receptors; or functional fragments of said expression products.

16. A library of olfactory receptors according to claim 15, wherein the library comprises the expression products of at least 50 polynucleotides of SEQ ID NO:1 through SEQ ID NO: 73, SEQ ID NO:111 through SEQ ID NO:152, and SEQ ID NO: 153 through  
5 SEQ ID NO: 1084 wherein said polynucleotides encode functional olfactory receptors; or functional fragments of said expression products.

17. A library of olfactory receptors according to claim 15, wherein the library comprises the expression products of at least 100 polynucleotides of SEQ ID NO:1 through  
10 SEQ ID NO: 73, SEQ ID NO:111 through SEQ ID NO:152, and SEQ ID NO: 153 through SEQ ID NO: 1084 wherein said polynucleotides encode functional olfactory receptors; or functional fragments of said expression products.

18. A library of olfactory receptors according to claim 15, wherein the library  
15 comprises the expression products of at least 200 polynucleotides of SEQ ID NO:1 through SEQ ID NO: 73, SEQ ID NO:111 through SEQ ID NO:152, and SEQ ID NO: 153 through SEQ ID NO: 1084 wherein said polynucleotides encode functional olfactory receptors; or functional fragments of said expression products.

20 19. A library of olfactory receptors according to claim 15, wherein the library comprises the expression products of at least 500 polynucleotides of SEQ ID NO:1 through SEQ ID NO: 73, SEQ ID NO:111 through SEQ ID NO:152, and SEQ ID NO: 153 through  
25 SEQ ID NO: 1084 wherein said polynucleotides encode functional olfactory receptors; or functional fragments of said expression products.

20. A library of olfactory receptors suitable for determining the interaction pattern of a composition with the receptors, comprising at least two polypeptides of SEQ ID NO: 1085 through SEQ ID NO: 2008, wherein said polypeptides are functional  
30 olfactory receptors; or functional fragments of said polypeptides.

21. A library of olfactory receptors according to claim 20, wherein the library comprises at least 50 polypeptides of SEQ ID NO: 1085 through SEQ ID NO: 2008,

wherein said polypeptides are functional olfactory receptors; or functional fragments of said polypeptides.

22. A library of olfactory receptors according to claim 20, wherein the library  
5 comprises at least 100 polypeptides of SEQ ID NO: 1085 through SEQ ID NO: 2008,  
wherein said polypeptides are functional olfactory receptors; or functional fragments of  
said polypeptides.

23. A library of olfactory receptors according to claim 20, wherein the library  
10 comprises at least 200 polypeptides of SEQ ID NOS of SEQ ID NO: 1085 through SEQ  
ID NO: 2008, wherein said polypeptides are functional olfactory receptors; or functional  
fragments of said polypeptides.

24. A library of olfactory receptors according to claim 20, wherein the library  
15 comprises at least 500 polypeptides of SEQ ID NO: 1085 through SEQ ID NO: 2008,  
wherein said polypeptides are functional olfactory receptors; or functional fragments of  
said polypeptides.

25. A method for determining the binding pattern of a composition with  
20 olfactory receptors, comprising the steps of:  
exposing the composition to a library according to claim 21; and  
determining whether the composition binds to each olfactory receptor, thereby  
determining the overall binding pattern of the composition.

26. The method of claim 25, wherein the composition consists essentially of one  
25 compound or chemical.

27. The method of claim 25, wherein the composition comprises at least two  
30 compounds or chemicals.

28. The method of claim 25, wherein the step of determining whether the  
composition binds to each olfactory receptor further comprises a determination of the

approximate binding constant with which the composition binds to each receptor or functional fragment thereof.

29. The method of claim 25, further comprising the step of determining whether  
5 a receptor or functional fragment thereof to which the composition binds is activated.

30. The method of claim 29, further comprising the step of determining the absolute or relative amount by which the receptor or functional fragment thereof is activated.

10

31. A DNA array or a DNA chip comprising DNA segments derived from SEQ ID NO: 153 through SEQ ID NO: 1084.

32. A method of determining differences among individuals with respect to their  
15 olfactory faculties, comprising the steps of comparing the olfactory DNA of the individual against the array or chip of claim 31.

33. A method to determine single nucleotide polymorphisms in olfactory receptors, comprising the steps of uniquely amplifying olfactory receptor sequences from DNA  
20 obtained from one or more individuals, based on primers designed according to the first 25 bases and the last 25 bases of any combination of, or each of, SEQ ID NO: 153 through SEQ ID NO: 1084, and determining the similarities and differences between said amplified DNA and the corresponding receptor from SEQ ID NO: 153 through SEQ ID NO: 1084.

FIGURE 1

## SEQ. ID NO:1

```

1  GGNTTATNCC NCGTTGNACT GCAGGGGNNC AACNCACAGN ACGCCCGNTG CTGAGGCTAT AAATGANCGG
71  NTTAAGGAGA GGAGTGAAGA CAGTAAAAAA ACACAGAGAT AAATTTATCA ATTGGGAAGC TTTCAAAGGG
141 CCAAATATAG ATGAATATTA ATGGGCCAAA GAAGAGAAGC ACAACAGTAA TGTGGGCAGA CAGAGTGGAA
211 AGGGCCTTGG ACATCCCATC AGAGGCTTGG CGATGCACAG TAGCAAGGAT GATAGTGTC AAAATGAGCA
281 AAAGGAGGAA ACACATAAGT GAGAGCAGAC CACTGTTAGT GAGCACCAGT ATCTCAAAAC CATAGGTGTC
351 TAAGCAGGCA AGCTTGATCA CTAGGAGGAG GTCACAGAAA AAATTGTCTA CCCTGTTGGG TCCACAGAAA
421 GGCAGATTGA CTTTGAATGC CAGGTGGGTG GCTGAGTGTG AGATGCCAAT GGCCAGGAA ACCCCACCA
491 GAACAGTTCA CACCCTCCGG TTCATGATGG TTATGTAGTG CAGAGGTTTG CATATAGCAA TGTATCTATC
561 ATAGGCCATG GCAACAAGAA GCACCATCTC ACTACCCCA AAAACATGCA AGN

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## SEQ. ID NO:2

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1  GGNNTTNAC ACGGACTCCA AGCAGTGGTA ACAACGCAGA GTACGCCCGT TCCTGAGTGA GTAGATGAAG
71  GGGTTCAGCA TGGGATTGAT GACAGTGTG AAAATTCCAA CAGCTTTATC CTTGTCTGAA AGCTTGGTTG
141 AACCAGTCG CATATAGTTA AAGATACCTG AACCATAGAA TATGGCAACC ACAGTGAGGT GGGAGCCACA
211 TGTGGAGAAG GCTTTCTTCC TGCCCTCTAC AGAGCGAATT CGCAGGACTG CAGCTGCCAC GTGGATATAG
281 GAGATGACAA TGAGAGCCAT GGGGGTACCT GCCATTATAA AACCACAGC AAAAAGCAGC AGCTCATTGA
351 GTTGGGTGCT GGAGCAGGAG AGCTGGAAGA GCTGTGGGAG GTCACAGTAG AAGTGATTGA TCACATTGGG
421 GCCACAGAAG TTGAGCGTGG ACATGGCCAC AGTGTGGGTC AGTGCCTTGG TGAAAGCACA AGCCAGGAC
491 GCAGCCACCA ACATCCTCTG GACTGTCTGA CTCATGCGGG TGCTTGTAGG TGAGGGGCCC GGCAGATGGG
561 CAGGAATCGG TCATAGGG

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## SEQ. ID NO:3

```

1  TGGNNTTTTA TCNCCNTTGG AGCTCCNAAG CAGTGGTAAC AACGCAGAGT ACGCCCGTTG CGAAGCGTGT
71  AGATTAGGGG GTTCAGTAGG GGAGTGATGA CAGTGTAGGT CACCGAGATC AGCTGGTCAT GTTCTCTGGT
141 GTTCTCTGAC TTGGGCTTGA GGTAGGCAAT GGAGGCACAG CTGTAGTGGA CAATGACCAC AGTGAGGTGG
211 GATGCACAGG TGGCAAAAGC CTCTTCCGG CCCTCAACTG AAGTAATCTT GAGGATTGTA GAGATAATGA
281 GAACATAAGA AATGAAAACC AGACCCATAG GTACAACAAG CACCAGCACA CTGATAATCA AAGTCAGGAT
351 TTCAATTGACA GTGGTGTCAA TGCAGGAGAG CTTCATCACA GGGCGGATGT CACAGAAGAA GTGGGGCACC
421 TTTTCTAGCA CAGAAGGGTA ACCTGAATAC AGATGTCACT TGCCTTATTG CTACAATCAG CCAATGCTG
491 CAAGGCCCCC AGGACAAGTT GGATACGCAG CCTCTTGTTT ATAATAACCA TGTATCTCAA GGGGGTTGCA
561 AGATGGCCAC ATAGCNGNTC ATATTCCN

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## SEQ. ID NO:4

```

1  GTNGTTNNTA ACNCCATTGG AGCTCCAAAG CAGTGGTAAC AACGCAGAGT ACGCCCCCAA TGTATTTTTT
71  TTTGAGAAAC TTGTCTTTCT TAGATTTTTG TTACATCTCT GTCACAATTC CAAAATCTAT TGTTAGTTCC
141 TTGACTCATG ATACTTCCAT TTCTTTCTTT GGGTGTGCTC TGCAAGCCTT CTTTTTCATG GACTTGGCAA
211 CTACGGAGGT AGCCATCCTT ACAGTGATGT CCTGTGACCG CTATATGGCC ATCTGCCGGC CTTTACATTA
281 TGAGGTCATC ATAAACCAAG GTGTCTGTCT GAGGATGATG GCCATGTCGT GGCTCAGTGG GGTGATCTGT
351 GGATTCATGC ATGTGATAGC AACATTCTCA TTACCATTCT GTGGGCGCAA TAGAATACGT CAATTTTTCT
421 GTAATATTCC ACAACTNCTA AGCCTCTTAG ACCCCAAAGT AATTACCATT GAGATTGGAG TCATNGGNTT
491 TTGGTACAAG TCTTNGGATA ATCCTCTTTG NTGNAATTAC TCTCTCCTAC ATGTNCATTT TTTTTTGNCA
561 TCATGAGGGA TTCCTCTAA AGG

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## SEQ. ID NO:5

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1  GNGGNTTNNNT NCCNCCNTTG GACTCCAAAG CAGTGGTAAC AACGCAGAGT ACGCCCGTGT GTAAATGAAT
71  GGGTTCAACA TGGGAGTCAT AACAGTGTAG GACAATGATA GCAGCTTCGT GCCCTCAGGT GAATTATTTG
141 ATTTAGGCCG GAAGTAGGTG AGGCTTAATG ATATATAGAA AAGAGAGACA ACAAGGAGGT GTGAGGAACA
211 TGTAGAAAAG GCTTTATTCT TCCCTTTAGC TGATGGGATC TTGAGGATGG CAGCAGCAAT GCGAGTATAG
281 GAACACAAGA TCAGCAAGCA GGGGATCATG ACCACCAGAA TGTTCCGAC GATGGCGTAG ATCTCAAACA
351 GTGCTGTGTC TGCACAGACC AGCCTCAGCA CAGGTGGGCT GTCACAGAAG AAGTGGTTCA CTTGTTGGT
421 GCCACAGAAT GGAAAACTGA AGAGCCATGT GGTCTGCACA GTAGCTACAG GAAAGCCTGG GAACCAGGAG
491 GCAGCAGCCA GTTTGGCAGC AGTCCTTTGG TTCATGATGA CTGGGTAGTG CAAGGGACTN GCAGATNNNC

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561 NCATTCCGGTC ATATGNCATG GNAG

SEQ. ID NO: 6

1 CNTTGGAGCT CCAAAGCAGT GGTAACAACG CAGAGTACGC CCGCTCCGCA GAGAATAGAT GAAAGGGTTC  
 71 AGGGTCGGGG GCACGACTGT GTAGAACGCA GACAGGAAAA CATCCAGAAC GGGGGGAGAA TTTGAAATTG  
 141 GCTTCACATA GGCAATGCTG CCAGATATCA TAAAGAGTGT TACAACCACA AGATGTGGAA TGCAGGTAGA  
 211 AAATGTTTTT GATCTACCCCT CCTTAGAAGG AATCCTCATG ATGACAGAAA AAATGTACAT GTAGGAGAGA  
 281 GTAATTACAA CAAAGGAGAT TATCACAAGA CTTGTACCAA AAACCATGAC TCCAATCTCA ATGGTAATTA  
 351 CTTTGGGGTC TAAGAGGCTT AGGAGTTTGT GGAATATTAC AGAAAAATTG ACGTATTCTA TTGCGCCAC  
 421 AGAATGGTAA TGAGAATGTT GCTATCACAT GCATGAATCC ACAGATCACC CCACTGAGCC ACGACATGGC  
 491 CATCATCCTC AGACAGACAC CTTGGTTTAT GATGACCTCA TAATGTAAAG GCCGGCAGGA TGGCCATATA  
 561 GCGGTCATAG GA

SEQ. ID NO: 7

1 GCAGTGGTAA CAACGCAGAG TACCGCCCCC TATGTACTTT TTCTTGGGAA ACTTGTCTGT GTTTGACATG  
 71 GGTTCCTCCT CAGTGACTTG TCCCAAAATG CTGCTCTACC TTATGGGGCT GGGCCGACTC ATCTCCTACA  
 141 AAGACTGTGT CTGCCAGCTT TTCTTCTTCC ATTTCTCGG GAGCATTGAG TGCTTCTTGT TTACGGTGAT  
 211 GGCCTATGAC CGCTTCACTG CCATCTGTTA TCCTCTGCGA TACACAGTCA TCATGAACCC AAGGATCTGT  
 281 GTGGCCCTGG CTGTGGGCAC ATGGCTGTTA GGGTGCATTC ATTCCAGTAT CTTGACCTCC CTCACCTTCA  
 351 CCTTGCCACA CTGTGGTCCC AATGAAGTGG ATCACTTCTT CTGTGACATT CCAGCACTGT TGCCCTTGGC  
 421 CTGTGCTGAC ACATCCTTAG CCCAGAGGGT GAGCTTCACC AACGTTGGCC TCATATCTCT GGCTGCTTTT  
 491 TGCTAAATCT TTTATCCTAC ACTAGAATCA CAAATATCTA TCTTAAGCAT TCGTACAAC

SEQ. ID NO: 8

1 GGAACAACGC AGAGTCGCCC CCGATGTACT TGTCTTCTC CAACCTGTCC TTTGCTGACA TTTGTGTTAC  
 71 TTCCACCACC ATTCCAAAAA TGCTGATGAA CATCCAGACA CAGAACAAAG TCATCACCTA CATAGCCTGC  
 141 CTCATGCAGA TGTATTTTTT CATACTCTTT GCTGGATTG AAAACTTCCT CCTGTCCGTG ATGGCCTATG  
 211 ACCGGTTTGT GGCCATCTGT CACCCCTGCT ACTACATGGT CATTATGAAC CCTCACCTCT GTGGACTGCT  
 281 GGTTCTGGCA TCCTGGACCA TGAGTGCTCT GTATTCCCTG CTACAAATCT TAATGGTAGT ACGACTGTCC  
 351 TTCTGCACAG CCTTAGAAAT CCCCCACTTT TTCTGTGAAC TTAATCAGGT CATCCAACCT GCTTGTCTG  
 421 ATAGCTTTCT TAATCACATG GTGATATATT TTACAGTTTG CGCTGCTGGG TGGAGGTCCC TGACTGGGAT  
 491 CCTTTACTTC TTACTCTAAG ATAATTTCTT CATACATGCA ATCTCANCAA GNTCAGGG

SEQ. ID NO: 9

1 GGGTTTTNAC CCNNTNGGAG CTCCNAGCAG TGGTAACAAC GCAGAGTACG CCCGTTTCGT AGGCTATAAA  
 71 TGAAGGGGTT GAGTGAGGGA GTCACCACTC CATAGAAGAG GGCCATGAAC TTGGGTGAT CCCTTGAGAT  
 141 GGAGGAGGGG GGCTGAAGGT ACATGCTGAT GGCTGGGCCA TAAAATAAGA AAACCTACAAT AAGATGGGAG  
 211 GAGCATGTCC CAAAGGCCCT TNTCCTTCCC TTGGAAGATT TGATCTTAAA TACAGCACTT NCAATACTAG  
 281 CATAGGAAGC AAGAATTAAAG CATANTGGGA CAGCTAACAT AAAAATGCAT ACCACAGAGA GTGTGAGCTC  
 351 GTTAGAAGCC TTTTCACCCAG AGGCAATCTT TATCAGAACA GGAATCTCAC ACACCAAGTG GTCCAGCTTA  
 421 TTGAGACCAC ACAGTGGNAA TTTGTATTGT GGCAGTGGCC CTCTGAGAAC GGCATAGATT ATACCAANTT  
 491 AACCACNACN GCGGNAACTA ANGATTGAGA CGCNCTGGAT TCATGATGAG GGTNTAGTGA AGAGGTTNTC  
 561 AGAATGGCCA CATACCGNTC AAA

SEQ. ID NO: 10

1 GCTGCTNCCA GCAGTGGTAA CAACGCANAG TACGCCCCCA ATGTATTTGT TCTTCGGCCA TCTGTCTCTC  
 71 CTGGATGTCT GCTTCATCAC CACTACCATC CCACAGATGT TGATCCACCT CGTGGTCAGG GACCACATTG  
 141 TCTCCTTTGT ATGTTGCATG ACCCAGATGT ACTNLTCTT CTGTGTTGGT GTGGCCGAGA GCATCCTCTT  
 211 GCCTTTCATG GCCTATGACC GNTATGNTGC TATCTGCTAC CCACTTAACT ATGTCCCGAT CATAAGCCAT  
 281 AAGGTCTGTG TCAGGCTTGT GGGAACTGCC TGGNTCTTTG GGCTGATCAA TGGCATCTTT NTCGGGTATA  
 351 TTTCATTCCT AGAGCCCTTC CGCAGAGACA ACCACATAGA AAGCTTCTTC TGCGAGGCCC CCATAGTGAT  
 421 TTGGCCTCTT TTGTGGGGGA CCTNANANT AGTCTGTGGG CAAATCTTTN GCCGATGCCA TCGTGGTAAT  
 491 TCTNAGNCCC ATNGGTGCTN ACTGNTACTT ACCTATNTGC ACATTCCCTGT CCACCATCCT AGNNAAAGTC  
 561 CTCCTTCTN

SEQ. ID NO: 11

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1 GGNNTTTTAC CNCNATTGGA GCTCCAAAGC AGTGGTAACA ACGCAGAGTA CGCCCCCTAT GTACTTGTTT
71 TTGAGAAACT TGTCTTTCTT AGATTTTGT TACATCTCTG TCACAATTCC AAAATCTATT GTTAGTTCCT
141 TGACTCATGA TACTTCCATT TCTTCTTTG GGTGTGCTCT GCAAGCCTTC TTTTTCATGG ACTTGGCAAC
211 TACGGAGGTA GCCATCCTTA CAGTGATGTC CTATGACCGC TATATGGCCA TCTGCCGGCC TTTACATTAT
281 GAGGTCATCA TAAGCCAAGG TGTCTGTCTG AGGATGATGG CCATGTCGTG GCTCAGTGGG GTGATCTGTG
351 GATTTCATGCA TGTGATAGCA ACATTCTCAT TACCATTCTG TGGGCGCAAT AGAATACGTC AATTTTCTG
421 TAATATTCCA CAGCTCCTAA GCCTCTTAGA CCCCAGTA ATTACCATTG AGATTGGAGT CATGGTTTTT
491 GGTACAAGGC TTGNGATAAT CTNCTTTGGT GNAATTACTC TCTCCTACAT GTACATTTTT TCTGCATCAT
561 GAGGATTCCCT TCTAAGGAGG GG

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## SEQ. ID NO:12

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1 GGNNTTGGACC ACGGAGCTCC AAGCAGTGGT AACAAACGAG AGTACGCCCT CTTGTCCTCG TGCCGATACA
71 TGATGGGGTT CAACATGGGA GTCATAACAG TGTAGGACAA TGATAGCAGC TTCTTGCCCT CAGGTGAATT
141 ATTTGATTTA GGCCGGAAGT AGGTGAGGCT TAATGATATA TAGAAAAGAG AGACAACAAG GAGGTGTGAG
211 GAACATGTAG AAAAGGCTTT ATTCTTCCCT TTAGCTGATG GGATCTTGAG GATGGCAGCA GCAATGTGAG
281 TATAGGAACA CAAGATCAGC AAGCAGGGGA TCATGACCAC CAGAATGGTT CCGACGATGG CGTAGATCTC
351 AAAGAGTGCT GTGTCTGCAC AGACCAGCCT CAGNACAGGT GGGCTGTAC AGAAGAAGTG GTTCACCTTG
421 TTGGTGCCAC AGAATGGAAA ACTGAAGAGC CATGTGGTCT GCACAGTAGC TACAGGAAAG CCTGGGAACC
491 AGGAGGTAGC AGCCAGTTTG CACGAGTCCC TTTGGTTNAT GAATGACTGG GGTAGTGCAA GGGACTGCAG
561 ATGGCCACAT ANCGGTCNT

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## SEQ. ID NO:13

```

1 GNNNTNNNN CCACTGGAGC TCCAAAGCAG TGGTAACAAC GCAGAGTACG CCCCCAATGT ATTTATTCTT
71 GCTCACCTCT CCTTAGTTGA TATCTGTTTT ACCACCAGTA TTGTCCCCCA GCTGCTGTGG AACCTAAAAG
141 GACCTGACAA AACAATCACA TTCCTGGGTT GTGTCATCCA GCTCTACATC TCCCTGGCAT TGGGCTCCAC
211 TGAGTGTGTC CTCTGGCTG TAATGGCTTT TGATCGCTAT GCTGCAGTTT GCAAACCTCT CCACTATACC
281 GCCGTAATGA ACCCTCAGCT GTGCCAGGCT CTGGCAGGGG TTGCGTGGCT GAGTGGAGTG GGAAACACTC
351 TTATCCAGGG CACTGTCACC CTCTGGCTTC CTCGCTGTGG ACACCGATTG CACTAACATT TCTTCGTGAG
421 GTACCCCTCA TGATTAAGCT TGCATGTGTG GACATCCATG ATAATGAGGT TCAGCTCTTT GTTGCTTCAC
491 TGGTCTTGCT CCTCTTGCCC TTAGTGCTAA TACTGCTGCC TATGGACATA TAGCCAAGGT GGCATAAGGA
561 TCAAGTCAGT CCAGCCT

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## SEQ. ID NO:14

```

1 GNNNTNNAC TCCATGGACT CCAAGCAGTG GTAACAACGC AGAGTACGCC CATACTGAT GGGGTTCACT
71 AGGGGAGTGA TGACAGTGTA GGTCACCGAG ATCAGCTGGT CATGTTCTCT GGTGTTCTCT GACTTGGGCT
141 TGAGGTAGGC AATGGAGGCA CAGCTGTAGT GGACAATGAC CACAGTGAGG TGGGATGCAC AGGTGGCAAA
211 AGCCTTCTTC CGGCCCTCAA CTGAAGCAAT CTTGAGGATT GNAGAGATAA TGAGAACATA AGAAATGAAA
281 ACCAGACCCA TAGGTACAAC AAGCACCAGC ACACTGATAA TCAAAGTCAG GATTTTCATTG ACAGTGGTGT
351 CAATGCAGGA GAGCTTCATC ACAGNGCGGA TGTACAGAA GAAGTGGGGC ACCTTCTAG CACAGAAGGG
421 TAACCTGAAT ACAGATGTCA CTTGCGTTAT TGCTACAATC AGCCCAATGC TGCNGCCCCC CAGGACAAGT
491 TGGATACGCA GCCTTNTCGT TCTANTAACC ATGTATCTCA ANGGGCTTGC NGATNNCCAC ATACTNGCAT
561 ANACCATTCG TGNGAGC

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## SEQ. ID NO:15

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1 GNCNNTNTTA ACNCCATTGG AGCTCCAAAG CAGTGGTAAC AACGCAGAGT ACGCCCATTA CGAAAAGTGT
71 AGATGAAGGG GTTCAAGAGG GGTGTGATGA TGCAGCTCAG GACGGAGGCA CCTTTGTTGA GCAGTTTGA
141 CTGAGCCTCT GACATACGAA TGTAAGAAA GATGGAAGT CCATAGATGA TGACCACCAC TGTAAGATGC
211 GAGGCGCAAG TGGAAAACGC TTTCCTTCGC TCAGCAGCTG TAGGGGCCCT GAGAACAGTG GCAAGAATGC
281 AGGCATAGGA AACTGAGGTC AGAGCCAGTG AGCCAGTAA CACCAACGTA GAGAGCATGA AAGCCACCAG
351 TTTCAGCAGG TGGGTGTCCC CACAAGAAA CCGTGAAGG GGCCAACTGT CACGAAAAGAA GTGGTCAATA
421 CCATTGNGGC CACAGAAAAG CATGGCTGGC CATGAGGACA GTGGGGCAAA GGACCCAGAG GAATNCANCT
491 AGCCAGGAGG CCACACTAGT TTGTGAACAG ACATGGCCAT TNATTAGGGT CTCATAGCGG AGTTGTGCGC
561 AGATTGTCNT GGTNACGATT CAN

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## SEQ. ID NO:16

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1 GGNNTTTTAC CNCNATTGGA CTCCAAAGCA GTGGTAACAA CGCAGAGTAC GCCCCCTATG TATTTATTCT
71 TGCTCACCTC TCCTTAGTTG ATATCTGTTT TACCACCAGT ATTGTCCTCC AGCTGCTGTG GAACCTAAAA
141 GGACCTGACA AAACAATCAC ATTCCTGGGT TGTGTCATCC AGCTCTACAT CTCCCTGGCA TTGGGGCTCCA
211 CTGAGTGTGT CCTCCTGGCT GTAATGGCTT TTGATCGCTG TGCTGCAGTT TGCAAACCTC TCCACTATAC
281 CGCCGTAATG AACCTCAGC TGTGCCAGGC TCTGGCAGGG GTTGCGTGGC TGAGTGGAGT GGGAAACACT
351 CTTATCCAGG GCACTGTCAC CCTCTGGCTT CCCCCTGTG GACACCGATT GCTCCAAACAT TTCTTCGTGA
421 GGTACCCTCC ATGATTAAGC TTGCATGTGT GGACATCCAT GATAATGAGG TTCAGCTCTT TGTTGCTTCA
491 CTGGTCTTGC TCCTCTTGCC CTTAGTGCTA ATACTGCTGC CTATGGACAT ATAGCCAANG TGGCATAAAG
561 GATCAAGTCA GTCCAGG

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## SEQ. ID NO:17

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1 GNNNNTTNTT CANTCCATTG GGCCCTCTAG ATGCATGCTC GAGCGGCCGC CAGTGTGATG GATATCTGCA
71 GAATTCGCCC TTATTCCGGA GGGTATACAT GAAGGGATTG GTAACCTAGC GTAACTCGA AGCCAAGAAC
141 AGAATTTCTC TTAGAAAAGA GAATTGAAAC TAAAGAGAAA GAACCTAGCAA AGAAGGAAAT ATTGAATATA
211 CAAGAGAGAG GAGACAGATG TAGGAACAAG ACTCTGAAAG AGGTGGAAGG GATTGAATAC AATCAAAAGT
281 ATGGTGACTG CTAGTTCCAA GATGGTGGCG TAGGGGCAAG CTGGCTTTGC TTACCCCCCT GGCAGAAAAC
351 CAAAAACAAA TAGCACCAAG ATTATCACTA GCAATATCCC AGAACTCACA TATAAGGATG AGACAGTTCC
421 CAGGGCCCAG AGAAGATCAG AAGCACAAGT GGGAGAAAGT AGCTTTGGAT GCTACTTTGT TCTAAGGGAG
491 ACAAGTTGGG AGGATGATTG CAGATGTATA TTCAATGTTA TAAAACAGCC CATAAAACAA AGATTGGAAA
561 ATGTTGAATT TTGCAACCAG GAGCAAATAC TGGGAAAGGC GAATTCAGC CACTTGCNGC C

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## SEQ. ID NO:18

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1 GNNNNTTNAN TCANTGCCCT NGGGCCCTCT AGATGCATGC TCGAGCGGCC GCCAGTGTGA TGGATATCTG
71 CAGAATTCGC CCTTGTGCG CAAGGTGTAA ATGAAAGGGT TTGCGCAGGA GTAAATGAAG GGATTACGCA
141 GGAGTAAATG AAGGGATTAC GCAGGAGTAA ATGAAGGGAT TACGCAGGAG TAAATGAAGG GATTACGCAG
211 GAGTAAATGA AGGGATTACG CAGGAGTAAA TGAAGGGATT ACGCAGGAGT AAATGAAGGG ATTACGCAGG
281 AGTAAATGAA GGGATTACGC AGGAGTAAAT GAAGGGATTA CGCAGGAGTA AATGAAGGGA TTACGCAGGA
351 GTAAATGAAG GGATTACGCA GGAGCAAATA CATAGGAAGG GCGAATTCCA GCACACTGGC GGCCGTTACT
421 AGTGGATCCG AGCTCGGTAC CAAGCTTGAT GCATAGCTTG AGTATTCTAA CGCGTCACTT AAATAGCTTG
491 GCGTAATCAT GGTATAGCT GTTTCCTGTG TGAAATTGTT ATCCGCTCAC AATCCACAC AACATACGAG
561 CCCGGAAGCA TAAAGTGTA AGNCTGGGGT GCCTAATGAG TGACTTACTC CATTA

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## SEQ. ID NO:19

```

1 GNNANTNATT CCATCCATTG TCCCTTCAGA TGCATGCTCG AGCGGCCGCC AGTGTGATGG ATATCTGCAG
71 AATTCGCCCT TCTTGTTTTT TGTGCTGATA GATCATGGGA TTCAGCATGG GGGTGACCAC AGTGTACATC
141 ACTGAGGCTG TTGCACTTGA GTGTGAGTTG CGGGTGGCAG CAGAACTAAG GTACACCCCT AGGATTGCAC
211 CATAAAATAA GGAGACAACT GAGAGGTGAG ATGCACAGGT GGAAGATGCC TTGTACTTCC CCTGAGCTGA
281 TGAGATNGCA TGTATGGAAN GAAATTATNT TANAAAGTAAG AGTAAAGNAT NCCAGTCAGG GGNANCNTTC
351 ACCCATCAGN TGCAANTTGT AAAAATTATA TTCAANCNAT NTGNATTTAA NGAAAANCCT TATCANGTAN
421 AACTGCNAA GNTNTGNATT NANCCCTNGN ANTTAANNTT TCNACAAGAA AATAANGTGC GTTNNAATCT
491 TTNTAAGTCC CTNTCNCCAT TAANGTCNAN TCCNTCCNTA TCCCTTTTCN NATTTTGNAN TCNNGANTAC
561 NNTCTNNNGC NNTCNATTTT TNTNNTNNCT GACCTACTAA CCNATTNAGT TACNACAAGN CCNTTCNANT
631 CTCTATAATT NCTCGCANGT TNTCCCTCTT NNCANNTNCC CNTTNTNTNC CCTNTTCCCC ATCTNC

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## SEQ. ID NO:20

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1 CCATTGGCCC TCTAGATGCA TGCTCGAGCG GCCGCCAGTG TGATGGATAT CTGCAGAATT CGCCCTTCCT
71 ATGTATTTTC TCTTACTGGG CTTTCCTGGT TCTCAAACCTC TTCAGCTCTC TCTCTTTATG CTTTTTCTGG
141 TGATGTACAT CCTCACAGTT AGTGGTAATG TGGCTATCTT GATGTTGGTG AGCACCTCCC ATCAGTTGCA
211 TACCCCATG TACTTCTTTC TGAGCAACCT CTCCTTCCTG GAGATTGGT ATACCACAGC AGCAGTGCCC
281 AAAGCACTGG CCATCCTACT GGAGAGAAGT CAGACCATAT CATTTACAAG CTGCTTTTGT CAGATGTACT
351 TTGTTTTCTC ATTAGGCTGC ACAGAGTACT TCCTCCTGGC AGCCATGGCT TATGACCGCT GTCTTGCCAT
421 CTGCTATCCT TTACACTACG GAGCCATCAT GAGTAGCCTG CTCTCAGCGC AACTGGCCCTT GGGCTTCTGG
491 GTGGNTGGGT TCGGGGGCAA TGCAGTGCCC ACAGGCCTTC AATCAAGTGG GCTGNTCCTT CTGGTGGCCC
561 CCGGTGCCAA TCAACCACTT TTTTTTGGG ACAATTGCAN CCCTGGAATT GGGC

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## SEQ. ID NO:21

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1  GNNCTTANTT CAATCCCACC NANCCNTGCC GANGCATGCT CGNGCGGCCG CCAGTGTGAT GGATATCTGC
71 AGAATTCGCC CTTCTATGT ATTTACTCTT ACTGGGCTTT CCTGGNTCTC AAACCTCTCA GCTCTCTCTC
141 TTTATGCTTT TTCTGGTGAT GTACATCCTC ACAGTTAGTG GTAATGTGGC TATCTTGATG NTGGTGAGCA
211 CNTCCCATCA GNTGCATACC CCCATGTTNT TCTTTCTGAG CNACCTCTCC TTCCTGGAGA TTGGTATNC
281 CNCAAGCNGC ANNGCCCAA GCTTTGCNCA TCTTATTGCN CAGANGCNNN CCNNTACANN NACNCTCCTG
351 TTTNTCGCTN CCTTNCCTCT TNCTTCNCTC ANNTACTNCN TCTNCTNTAG TNTCTTTCTT CTCTNTCNCT
421 CNTNNCNCCT NTAATNTTCC NCCTNTTCTN NTTTCTNTT TCCCTNCTCT GTTTCACCCC TACCTCTTAT
491 CNTNCTNCT NACTTCANNC TCNGNCNNTN NNNCNCNNT AAATNTANGN NNANNTNNTN ATNTNCTCTT
561 CTCCNTTAT ATCGCCTCTT CTCNTNCTTC CNNTTCTCTC TCCTCANNCA TATCNANTNT NTTCTACTCT
631 CGTNCNNTAT CTANNCTCCT NTTTCNGTCC TNCTTCTCCT NTCATTTCTA TATTNCTTCT CANACANTNT
701 TCGCATCGTN GCANCATCTC CTCCCATCTC CTGTNCNCTN TTCCN

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## SEQ. ID NO:22

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1  GNNNTTAANT CATTCCCNC TCNATGCATG CTCGAGCGGC CGCCAGNGTG ATGGATATCT GCAGAATTCG
71 CCCTTGTTTC GGAGGCAGTA GATGAATGGG TTGATGGAAT CTGAGACAGT GCTCTAGAAT CTGTGTTTCA
141 TACAGGATGA GATATAAATG AAACAAATGC TAAATAATGA CACAAGGTAC CTTGCCGAGA GAGGAATCAT
211 CCACCTGGAA GGGTAGGCTG TTTGTGAATA ATGTAGGGTG GGAGAGAAGG CTTTACTAAG GAGATGGGCT
281 TAAAGAATGT GAACGATGTG CTCACAGAGG CCACAGAAGA GAAATTATAG CCAGGAGAAC AACCTGAAAG
351 ACAAAGGACA CGGTGGCATG AGCGCATGTA ACACAATGTA CTCAGGAAAT GGCTGGCATC CTGAGATATG
421 GAGTGGAATA CAGTACAGGG CTTGTAAAC TCAGCTTGA GTCAGATCAC AGAAAGCCTT GACAAGGAAC
491 TGAAAATGGG TTCTGAAGGC CAGAAGCCCA TTCAAGATTC CCAAAGGGAA AAACACAAAT CAGCTTGGTT
561 TCAGGACGTA ATTCTTGCA GTTGCTAGAA TTACATCAGA AAGGAGGTTT ACNT

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## SEQ. ID NO:23

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1  GNNNTNANTC ANNCANTGGG CCCTCTAGAT GCATGCTCGA GCGGCCGCCA GTGTGATGGA TATCTGCAGA
71 ATTCGCCCTT CCTATGTATT TCCTCTTACT GGGCTTTCTT GGTTCCTAAA CTCTTCAGCT CTCTCTCTTT
141 ATGCTTTTTT TGGTGATGTA CATCCCCACA GTTAGTGGTA ATGTGGCTAT CTTGATGTTG GTGAGCACCT
211 CCCATCAGTT GCATACCCCC ATGTACTTCT TTCTGAGCAA CCTCTCCTTC CTGGAGATTT GGTATACCAC
281 AGCAGCAGTG CCCAAAGCAC TGGCCATCCT ACTGGGGAGA AGTCAGACCA TATCATTTAC AAGCTGTCTT
351 TTGCAGATGT ACTTTGTTAT CTCATTAGGC TGCACAGAGT ACTTCCTCCT GGCAGCCATG GCTTATGACC
421 GCTGTCTTGC CATCTGCTAT CCTTTACAT ACGGAGCCAT CTGAGTAGC CTGCTCTCAG CGCAGCTGGC
491 CTTGGGCTCC TGGGTGNGGG GGTTCTGGC CATTGCAAGT GCCCACAAGC CCTAATCAGT GGCCCTGTCC
561 NTCTGGGGGC CCCCAGGCCA TTNACCACTT TTTCTGGGA CAATTGCACC CCTGGAATTG G

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## SEQ. ID NO:24

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1  TNNTTAANTC ATTCCNTTGN CCCTCNAGAT GCATGCTCGA GCGGCCGCCA GTGTGATGGA TATCTGCAGA
71 ATTCGCCCTT TCCTTGTTAC TGAGGGAGTA GATTAGGGGA TTGATGGAAT CTGAGACAGT GCTCTAGAAT
141 CTGTGTTTCA TACAGGATGA GATATAAATG AAACAAATGC TAAATAATGA CACAAGGTAC CTTGCCGAGA
211 GAGGAATCAT CCACCTGGAA GGGTAGGCTG TTTGTGAATA ATGTAGGGTG GGAGAGAAGG CTTTACTAAG
281 GAGATGGGCT TAAAGAATGT GAACGATGTG CTCACAGAGG CCACAGAAGA GAAATTATAG CCAGGAGAAC
351 AACCTGAAAG ACAAAGGACA CGGTGGCATA AGCGCATGTA ACACAATGTA CTCAGGAAAT GGCTGGCATC
421 CTGAGATATG GAGTGGAATA CAGTACAGGG CTTTGTAAC TCAGCTTGA GTCAGATCAC AGAAAGCCTT
491 GACAAGGAAC TGAAAATGGG TTCTGAAGGC CAGAAGCCAT TCAAGATTCC CAAAGGGAAA AACACANATC
561 ACTTGTTTTT AGGACGTATT CTTGGGCAGT TGCTAGAATT ACATCAGAAA GG

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## SEQ. ID NO:25

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1  GNNNNTTANT CCATGCCCTT CTAGATGCAT GCTCGAGCGG CCGCCAGTGT GATGGATATC TGCAGAATTC
71 GCCCTTGTTT CGCAGCCTAT AAATGAAGGG GTTGATGGAA TCTGAGACAG TGCTCTAGAA TCTGTGTTT
141 ATACAGGATG AGATATAAAT GAAACAAATG CTAATAATG ACACAAGGTA CTTGCCGAG AGAGGAATCA
211 TCCACCTGGA AGGGTAGGCT GTTTGTGAAT AATGTAGGGT GGGAGAGAGG GCTTTACTAA GGAGATGGGC
281 TTAAAGAATG TGAACGATGT GCTCACAGAG GCCACAGAAG AGAAATTATA GCCAGGAGAA CAACCTGAAA
351 GACAAAGGAC ACCGGTGGCA TAAGCACATG TAACACAATG TACTCAGGAA ATGGCTGGCA TCCTGAGGTA
421 TGGAGTGGAA TACAGTACCG GGGCTTTGTA AACTCAGCTT GGAGTCAGAT CCAGAAAGCC CTTGACAAGG
491 AACTGAAAAT TGGGTTCTTG AAGGCCAGAA GCCATTCAAG GATTCCCCAA AGGGGAAAAA CACAAATCAA

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561 GCTTGTTTTT AGGGACCGTT AATTCTGGGG CCAGGTTGCT TGAATTACCT TCANGAAAGG GAGGTTTACA  
631 CT

## SEQ. ID NO:26

1 GNNCTTATTC ATCCCCCTCT AGATGCATGC TCGAGCGGCC GCCAGTGTGA TGGATATCTG CAGAATTTCG  
71 CCTTTCTTTG TTCCTCAGAG TGATAGATTAG GGGGTTGATG GGGTTGATGG AATCTGAGAC AGTGCTCTAG  
141 AATCTGTGTT TCATACAGGA TGAGATATAA ATGAAACAAA TGCTAAATAA TGACACAAGG TACCTTGCCG  
211 AGAGAGGAAT CATCCACCTG GAAGGGTAGG CTGTTTGTGA ATAATGTAGG GTGGGAGAGA AGGCTTTACT  
281 AAGGAGATGG GCTTAAAGAA TGTGAACGAT GTGCTCACAG AGGCCACAGA AGAGAAATTA TAGCCAGGAG  
351 AACAACTGA AAGACAAAGG ACACGGTGGC ATAAGCGCAT GTAACACAAT GTACTCAGGA AATGGCTGNC  
421 ATNCTNAGAT ATGGAGNGNG AATACCAGTA CANGGCTTTN TANACTCANC TTGGAGTNCA GAATCACANA  
491 ANGCTTGCA AGGAACTGAA AATGGGTTCT GAAAGGCCAG AAGCCNTTNA AGATTCCCAA AGGGAAAAAA  
561 CACAAATCAA GCTTTTTTNA AGNACNGTAA TTCNTGGNGC CAGTTGCTTA GAATTNCCAT CANAAANG

## SEQ. ID NO:27

1 GGNNTAAGCC TTCCCCCTNC GATGCTGCTC GAGCGGCCGC CAGTGTGATG GATATCTGCA GAATTCGCCC  
71 TTCCCATGTA TTTCTCTTA CTGGGCTTTC CTGGTTCTCA AACTCTTCAG CTCTCTCTCT TTATGCTTTT  
141 TCTGGTGATG TACATCCTCA CAGTTAGNGG TAATGGGGCT ATCTTGATGN TGGTGAGCAC CNCCCATCAG  
211 TTGCATACCC CCATGTACTT CTTTCTGAGC AACCNNNTCCN TCCTGGAGAN TTTGGNATAC CACACGCAAN  
281 NAGNGNCCNA AGGCACTTGG NCNTNCTACA GNGGAGAAG GCTTGACCAT ANNATTTTAC CATGCCTNGC  
351 CTTANGNCAN ACCCNNCTTN TNCCTNTTNT TCCNCTNNNN GGTNNNTCAN CCGCANNCTT NNATCNNNTG  
421 NANCTTCATN GAATATGGNN TNGTNTNTC TTGAGAGCCT CNNGATCNA TTTTTTCCAN CNNCTAAAGN  
491 GNGGCTTNTC TCTCTNNNAT CTAGCTTNNNT GGNTCTCTTT TTNNTNCTNA CCCGTGNTNT CCTATNTGNT  
561 GTCTCTTCTT ACNNNCTGCN NTTATTNTAN ATCANNTCTN NCNTTGCTCT CNTNTACNAC ATNATCATNC  
631 TCNCTCCCN CTNTCNCCT CTATNNCNTA CCATCNCCT CTTCTCATTC ANCTCTTNT CATTGNTTGT  
701 TCANTTANNC ACTCTCCNTC NCATCTTCTA TNCACANNT TTNTTNTTTT NCTCTCTANT TCTNNTTCCA  
771 NTGTNCACTC CNNTCTTNNC NNTTNCCTA NCG

## SEQ. ID NO:28

1 GTNNNTNANN NCATTGCCCC TCTNGATGCA TGCTCGAGCG GCCGCCAGTG TGATGGATAT CTGCAGAATT  
71 CGCCCTTCTT ATGTACTTCC TCTTACCGGG CTTTCTGGT TCTCAAATC TTCAGCTCTC TCTCTTTATG  
141 CTTTTTCTGG TGATGTACAT CCTCACGGTT AGTGGAATG TGGCTATCTT GATGTTGGTG AGCACCTCCC  
211 ATCAGTTGCA TACCCCATG TACTTCTTTC TGAGCAACCT CTCCTTCCCTG GAGATTTGGT ATACCACAGC  
281 AGCAGTGCCC AAAGCACTGG CCATCCTACT GGGGAGAAGT CAGACCATAT CATTTACAAG CTGTCTTTTG  
351 CAGATGTACT TTGTTTTCTC ATTAGGCTGC ACAGAGTACT TCCTCCTGGC AGCCATGGCT TATGACCGCT  
421 GTCTTGCCAT CTGCTATCCT TTACACTACG GAGCCATCAT GAGTAGCCTG CTCTCAGCGC AGCTGGCCCT  
491 GGGCTTCTGG GTGGGTGGGT TTCGGGGCCA TTGCAAGTGC CCACAGCCCT TATCAAGTGG CCTGTCCTTC  
561 TGNGGCCCCC GGGCCCATCA ACCACTTTTT TCTGGGGACA ATTGCACCCT GGAATGGCCC

## SEQ. ID NO:29

1 GTNNNTNANN CCATNCCATT GGGCCCTCTA GATGCATGCT CGAGCGGCCG CCAGTGTGAT GGATATCTGC  
71 AGAATTCGCC CTTTCATGGT TCCGGAACA GTAAATTATG GGGTTCAGTC ATGGTAACAG GAGGAGGCTG  
141 AGTGTATGGG CATGGATGGG GGCTGTGAAT GTGGCGGGAG CTCATGGATG TGCTCTTCTG AGTGCTTCAC  
211 GTTTCTGAGT GAAATAAGAA GCAAGGTCAT CACCGAGAGG GAGGAGACAG GCTCGGGTGA GTTTAGTGGA  
281 TATGAATCCA AGAGAGACCA TTCAACTTAG TTGTCTATTT TTTTTTCTC CAGTTATAGT CACTTGATG  
351 AATGTAGATG TGGAGTACTT GATCATAAGA TCCATTTTAT GGCAGAAGAC ATTATTTTTC TGAGCCTTCT  
421 GCTGTCAGTT TCTAAATAAG CAGGCCAGCC GGGCTGTGCA CCTAAATGTC TGTCTGGGAG GAGCAGGCTG  
491 AGAAGTCTTG CAGTCTGCAG GACACCCGAG GAATCGTATT GTGGGAACCG TCCCCGAGAA CCACACGAGC  
561 CGTGCTNCTC AGTNCTGACT GGAANAATGA AATTGNAAGC CAAGTNGTTC NNGGANCNNT

## SEQ. ID NO:30

1 GNNNTNANN CCATTGCGCC CTCTAGATGC ATGCTCGAGC GGCCGCCAGT GTGATGGATA TCTGCAGAAT  
71 TCGCCCTTCC TATGTATTTT TCTTCCTAAC GATTGGAATG CCTGGGATTA GGCAGATGAT TTTCTTTTTC  
141 CCCCATACCC CTCTATTATT TAGGTGATTG AGTTTAAATC CCTTTATCTA CACCCTTCGG AACAAAGGCG  
211 AATTCCAGCA CACTGGCGGC CGTTACTAGT GGATCCGAGC TCGGTACCAA GCTTGATGCA TAGCTTGAGT

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281 ATTCTAACGC GTCACCTAAA TAGCTTGGCG TAATCATGGT CATAGCTGTT TCCTGTGTGA AATTGTTATC
351 CGCTCACAAAT TCCACACAAC ATACGAGCCG GAAGCATAAA GTGTAAAGCC TGGGGTGCCT AATGAGTGAG
421 CTAACTCACA TTAATTGCGT TGGCTCACT GCCCGCTTTC CAGTCGGGAA ACCTGTCGTG CCAGCTGCAT
491 TAATGAATCG GCCAACGCGC GGGGAGAGGC GGTTCGCGTA TTGGGCGCTC TTCCGCTTTC TCGCTCACTG
561 ACTCGCTGGG CTTCGGTCGN TCGGCTGCGG CGAGCGGGAT CAGCTCACTC AAAAGG

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## SEQ. ID NO:31

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1 GNNNNNNNNNT CANGCCATTG GGCCCTCTAG ATGCATGCTC GAGCGGCCGC CAGTGTGATG GATATCTGCA
71 GAATTCGCCC TTCCTATGTA TTTCTCTTCA CTTTCTCCGA CATCACTCAC AGCCACCCCA CCCTCAGCCT
141 CTCCCTCCTC CCATGTATTT TCTCTTCAAT CTCTCCTTCT TTGATATCCT GAACTTTCTG TAGCTCTTTA
211 TTTTCTCTTC CAATCCCTTC ATATACACGT TTCGTAACAA GGGCGAATTC CAGCACACTG GCGGCCGTTA
281 CTAGTGGATC CGAGCTCGGT ACCAAGCTTG ATGCATAGCT TGAGTATTCT AACGCGTCAC CTAAATAGCT
351 TGGCGTAATC ATGGTCATAG CTGTTTCCTG TGTGAAATTG TTATCCGCTC ACAATTCCAC ACAACATACG
421 AGCCGGAAGC ATAAAGTGTA AAGCCTGGGG TGCCTAATGA GTGAGCTAAC TCACATTAAT TCGTGCGCT
491 CACTGGCCGC TTTCCANGTC GGGAAACCTG TCGGCCAGCT GCATTAAATG AATCGGCCAA CGCNCCGGGA
561 GAGGCGGTTT GCGTATTGGG CGCTNNTTCG TTCTTCGNTN ACTGATCGNT GG

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## SEQ. ID NO:32

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1 GNNNNNNNNNT TCATNCCATT GGGCCCTCTA GATGCATGCT CGAGCGGCCG CCAGTGTGAT GGATATCTGC
71 AGAATTCGCC CTTGTTGCTT AGAGTGTAAT TAAAGGGGTT AACATTGGCT TAGAGGTGAA GAGTAAATAC
141 ATAGGAAGGG CGAATTCCAG CACACTGGCG GCCGTTACTA GTGGATCCGA GCTCGGTACC AAGCTTGATG
211 CATAGCTTGA GTATTCTAAC GCGTCACCTA AATAGCTTGG CGTAATCATG GTCATAGCTG TTTCTGTGT
281 GAAATTGTTA TCCGCTCACA ATTCCACACA ACATACGAGC CGGAAGCATA AAGTGTAAG CCTGGGGTGC
351 CTAATGAGTG AGCTAACTCA CATTAAATTG GTTGCGCTCA CTGCCCGCTT TCCAGTCGGG AAACCTGTCTG
421 TGCCAGCTGC ATTAATGAAT CGGCCAACGC GCGGGGAGAG GCGGTTTGCG TATTGGGCGC TCTTCGCTT
491 CCTCGCTCAC TGACTCGCTG CGCTCGGTCTG NTCGGCTGCG GCGAGCGGTA TCAAGCTCAC TCAAAGGCGG
561 TAATACGGTT ATCCACAGAA TCAGGGGGAT ACGCANGAAA GAACATGTGA GCAAT

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## SEQ. ID NO:33

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1 GNTNTNANTC ATGCCCCCNC CGATGCNTGC NCGAGCGGCC GCCAGTGTGA TGGATATCTG CAGAATTCGC
71 CCTTGTTGCG GAGCGAATAT ATGAAGGGGT TAAGGGAAGA GAAAATACAT AGGAAGGGCG AATTCCAGCA
141 CACTGGCGGC CGTTACTAGT GGATCCGAGC TCGGTACCAA GCTTGATGCA TAGCTTGAGT ATTCTAACGC
211 GTCACCTAAA TAGCTTGGCG TAATCATGGT ATGACTGTT TCCTGTGTGA AATTGTTATC CGCTCACAAT
281 TCCACACAAC ATACGAGCCG GAAGCATAAA GTGTAAAGCC TGGGGTGCCT AATGAGTGAG CTAACACACA
351 TTAATTGCGT TGGCTCACT GCCCGCTTTC CAGTCGGGAA ACCTGTCGTG CCAGCTGCAT TAATGAATCG
421 GCCAACGCGC CGGGGAGAGG CGGTTTGCGT ATTGGGCGCT CTTCGCTTC CTCGCTCACT GACTCGCTTG
491 CGCTCGGTCC GTTCGGCTGC GGCAGCGGTT ATCAANTCAC TCAAAAGGCG GGAATACGGG TTTNCACAGA
561 AATCAGGGGG ATAACGCNGG AAAGAACATG TGAGCCANAN GGCAGCAAAA GGGCNAGGAA T

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## SEQ. ID NO:34

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1 GNNNNNNNNNT CANNCCATTG GGCCCTCTAG ATGCATGCTC GAGCGGCCGC CAGTGTGATG GATATCTGCA
71 GAATTCGCCC TTGTTCCGAA GGCTATAGAT GAAGGGGTTT TAGGTTTTTA GGAACACAGG CTAAGGGGGA
141 AGAGAAAATA CATGGGAAGG GCGAATTCCA GCACACTGGC GGCCGTTACT AGTGGATCCG AGCTCGGTAC
211 CAAGCTTGAT GCATAGCTTG AGTATTCTAA CGCGTCACCT AAATAGCTTG GCGTAATCAT GGTTCATAGCT
281 GTTTCCTGTG TGAAATTGTT ATCCGCTCAC AATTCCACAC AACATACGAG CCGGAAGCAT AAAGTGTAAT
351 GCCTGGGGTG CCTAATGAGT GAGCTAACTC ACATTAATTG CGTTGCGCTC ACTGCCCGCT TTCCAGTCGG
421 GAAACCTGTC GTGCCAGCTG CATTAAATGAA TCGGCCAACG CGCGGGGAGA GGCGGTTTGC GTATTGGGCG
491 CTCTTCCGCT TCCTCGCTCA CTGACTCGCT GCGCTCGGTC GTCGGCTGCG GCGAGCGGTA TCAGCTCACT
561 CAAAGGCGGT AATACGGGTA TCCACAGAAT CANGGGATAA CGCAGGAAAA GACA

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## SEQ. ID NO:35

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1 GGNNTTNANT CATTGCCCGG CTNGATGCAT GCTCGAGCGG CCGCCAGTGT GATGGATATC TGCAGAATTC
71 GCCCTTCCGA TGTATTTTCT TCTACGTAA GGTATTTTAA ATTGTTACTA ATGCATAAGG GCAACACATT
141 CTGTAATGCT GACAAGATGA AAGAGCCAAA AGTAATTAAT GATGCTGTTA CCTCACAAAT ATGTATGTGT
211 GGATGTATAT ATATCTATTC AATATATGTA ACTATACATA TGTCTGTTTC TAATTGAAAA CACCAGGTAA

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281 TTATCATCTG TAGAAACCCCT AGTGTCTCAG ATAAGTTGGC TAGTTTTTTG TTTCACATAA AGGAACAAAC  
 351 ATTTATAGAT TTATATGTAT ATTA AAAATG GTAAAAATTG GCTGGGTGCA GTGGTTCATG CCTATAATAC  
 421 CAGCACTTTG GGAAGCCGAG GTGGGCGGAT TACTTGAGGT AAGGAGCCCA GCCTGACCAA CAAGGTGAAA  
 491 CCCCATCCCT ACTAAAAATA CAAGAATTAG CCCGGGGATG GTGGTGGCCA CCTGTAATCC CAGCTACTTG  
 561 GGAGACTGAA GCCAGGAAAA TCACTTGACC CAGGAAGCNG AGGTTGCAGG NGAG

## SEQ. ID NO:36

1 NGNNNTTGAN TCAATTCNNN GNCGANGCAT GCTCGAGCGG CCGCCAGTGT GATGGATATC TGCAGAATTC  
 71 GCCCTTCCTA TGTATTTCTT TCTAGCCAAC CTCCCACTCA TTGATCTGTC TCTGTCTTCA GTCATAGCCC  
 141 CCAAGATGAT TACTGACTTT TTCAGCCAGC GCAAAGTCAT CTCTTTCAAG GGCTGCCTTG TTCAGATATT  
 211 TCTCCTTCAC TTCTTTGGTG GGAGTGAGAT GGTGATCCTC ATAGCCATGG GCTTTGACAG ATATATAGCA  
 281 ATATGCAAAAC CCCTACACTA CACTACAATT ATGTGTGGCA ACGCATGTGT CGGCATTATG GCTGTGCGAT  
 351 GGGGAATTGG CTTTCTCCAT TCGGTGAGCC AGTTGGCCTT TGCCGTGCAC TTACCCCTTCT GTGGTCCCAA  
 421 TGAGGTCGAT AGTTTTTATT GTGACCTTCC TAGGGTAACC AAACCTGCCT GTACAGATAC CTACAGGCTA  
 491 GATATTATGG TCATTGCTAA CAGTGGTGTG CTCACTGTGT GGTCTTTTGT CTTCTAATCA TCTCATAAC  
 561 TATCATCCTA ATGACCATCC AGCATTGCCC TTTAGATAAG TCGTNCAAAG G

## SEQ. ID NO:37

1 GNNNTNANTC CNNNCCNCNN CTAGATGCAT GCTCGAGCGG CCGCCAGTGT GATGGATATC TGCAGAATTC  
 71 GCCCTTCCCA TGTATTTGCT TCTCAGCAAC TTGTCCTTCT CTGACCTCTG CTTCTCTTCC GTGACCATTC  
 141 CCAAGTTGTT ACAGAACATG CAGAACCAGG ACCCATCCAT CCCCTATGCG GACTGCCTGA CCCAAATGTA  
 211 CTTCTTCTG TTATTTGGAG ACCTGGAGAA CTTCTCTCTT GTGGCCATGG CCTATGACCG CTATGTGGCC  
 281 ATCTGCTTCC CCCTGCACTA CACCGCCATC ATGAGCCCCA TGCTCTGTCT CGCCCTGGTG GCGCTGTCTT  
 351 GGGTGCTGAC CACCTTCCAT GCCATGTTAC ACACCTTACT CATGGCCAGG TTGTGTTTTT GTGCAGACAA  
 421 TGTGATCCCC CACTTTTTCT GNGATATGTC TGCTCTGCTG AAGCAGGCCT TCTCTGACAC TCGAGTTAAT  
 491 GAATGGGTGA TATTTATCAT GGGAGGGCTC ATTCTTGTC TCCCATTCTT ACTCATTCTT GGGTCTATG  
 561 CAAGAATTGT CTCCTCATCC TCAAGGTCCC TTTNTAANG GTATCTGCAA GGCCCT

## SEQ. ID NO:38

1 NGNNNNNTNA NTCNANGCCN NGNGCCCTCT AGATGCATGC TCGAGCGGCC GCCAGTGTGA TGGATATCTG  
 71 CAGAATTTCG CTTTCCAATG TATTTACTTC TCAGCCAGCT CTCCCTTATG GACCTGATGT ACATCTCCAC  
 141 CACCGTCCCC AAGATGGCGT ACAACTTCCT GTCCGGCCAG AAAGGCATCT CTTTCTGGG ATGTGGTGTG  
 211 CAAAGCTTCT TCTTCTGAC CATGGCGTGT TCTGAAGGCT TACTCCTGAC CTCCATGGCC TACGACCGTT  
 281 ATTTGGCCAT CTGCCACTCT CTCTATTATC CTATCCGCAT GAGTAAAATG ATGTGTGTGA AGATGATTGG  
 351 AGGCTCTTGG AACTGGGGT CCATCAATC CTTGGCACAC ACAGTCTTTG CCCTTCATAT TCCCTACTGC  
 421 AGGTCTAGGG CTATTGACCA TTTCTTCTGC GATGTCCCAG CCATGTTGCT TCTTGCTGTA CAGATACTTG  
 491 GGTCTATGAA TATATGGTTT TTGTAAGGAC AAAGCCTCTT TCTTCTTTN CCTTTCATTG GCATCACTTC  
 561 TTCTGNNGGC CGAGTCCTAA TTGCTGGCTA TATAATGCAC TCAAAGGAGG GGAGG

## SEQ. ID NO:39

1 TAGNNNNNTT ANNTCANNGC CNNTGNNNGC TCAGATGCAT GCTCGAGCGG CCGCCAGTGT GATGGATATC  
 71 TGCAGAATTC GCCCTTCCAA TGTATTTTCT TCTCAGCAGG AGAGATATTT ATCCTCACTG CCATGTCCCTA  
 141 TGACCGCTAT GTAGCCATCT GCTGTCCCCT GAACTACGAG GCTGCACAGA GTACTTCCTC CTGGCAGCCA  
 211 TGGCTTATGA CCGCTGTCTT GCCATCTGCT ATCCTTTACA CTACGGAGCC ATCATGAGTA GCCTGCTCTC  
 281 AGCGCAGCTG GCCCTGGGCT CCTGGGTCTG TGGTTTCGTG GCCATTGCAG TGGCCACAGC CCTCATCAGT  
 351 GGCCTGTCTT TCTGTGGCCC CCGTGCCATC AACCCTTCT TCTGTGACAT TGCACCTGG ATTGCCCTGG  
 421 CCTGCACCAA CACACAGGCA GTAGAGCTTG TGGCCTTTGT GATTGCTGNT GTGGTTATCC TGAGTTCATG  
 491 CCTCATCACC CTTGTCTCCT ATGTGTACAT CATCAGCACC ATCCTTAGGA TCCCCTCTGC AGTGGCCGGA  
 561 GCAAAGCCTT CTCCCGTGCT CCTCGCATCT NAACGNGGTG CTCATTTGGT ATGGG

## SEQ. ID NO:40

1 CATGCTCGAG CGGNCGCCAG NGNGATGGAT ATCTGCAGAA TTCGCCCTTC CTATGTATTT GCTTCTCAGC  
 71 AGGAGAGATA TTTATCCTCA CTGCCATGTC CTATGACCGC TATGTAGCCA TCTGCTGTCC CCTGAACCTAC

141 GAGGTGATTC ATGTGCCCCAT TAGAGCTTGA GAAGCACTGC TTGGAAGCCC CTTCTGCCAT CAATGAGGCT  
211 GCACAGAGTA CTTCTCTCTG GCAGCCATGG CTTATGACCG CTGCCTTGCC ATCTGCTATC CTTTACACTA  
281 CGGAGCCATC ATGAGTAGCC TGCTCTCAGC GCAGCTGGCC CTGGGCTCCT GGGTCTGTGG TTTTCGTGGCC  
351 ATTGCAGTGC CCACAGCCCT CATCAGTGGC CTGTCTTCT GTGGCCCCCG TGCCATCAAC CACTTCTTCT  
421 GTGACATTGC ACCCTGGATT GCCCTGGCCT GCACCAACAC ACAGGCAGTA GAAGCTTGNG GCCTTTGTGA  
491 ATTGCTGNTG TGGGTATCCC GAGTTCATGC CTCATCACCC TTGNCTTCTA TGTGTACATC ATCAGGCACC  
561 ATTCTCAGGA TCCCTTCTGC AAGNGG

## SEQ. ID NO:41

1 ATGGNNNNNN NNTTTNNNAA ANTTTNNCCC ANTTTGGGCG GNCCCCCCT TCTTTAAGGN AATGGGCCCA  
71 TTGGGCCCTT CCCGGAAGGC CCGGGGGCNC CCGGCCCAA AGGTTTGGGT TGGGAAATGG GGGGAATTTA  
141 AATTCCTTTG GGCCAAGGNA AAAATTTTCC NGCCCCCCT TTTTTCCTT TTTGGTTTT ANCCGGGGGA  
211 ANGGGGGGGT TGATTAATTA ATCGGGAAGN TNGGGGGGAA NTTTTTTAA AAAACCTTG GGGGAAGGTT  
281 CCAACCCAAC AAGGTTGGTT TTCCANGGGA CCGTTGGGAC CAGGCTTTN GAATCAAGAA TCCCAAAGGG  
351 CATTCTTTTG GATTAAGGAA NGGTGCCGGG ACCGGTGAAA GGGAAAAAAC TGGTGGACCC CATACCAAAA  
421 TGAGAACCAC GGTGAGATGC CGAGGAGCAC GTGGAGAAAG GCTTTGCTTC CGGCCACTGG CAGAGGGGAT  
491 CCTGAGGATG GTGCTTGATG ATGTACACAT AGGGAGACAA GGGTGATGAG GCATGAATC AGGATAACCA  
561 CAACAGCNAT CACAAAGGCC ACAAGCTCT ACTGCCTGTG TGTGGGTGC AGGCCAGGGC AATCCAGGGG  
631 TGCAATGTCA CAAGAAAGAA AGTGGTTGAT GGCACGGNG GGCCACAGAA GGACAGGCCA CTTGATGAAG  
701 GGCTTGTGGG CACTGCAATG GCCACGAAAC CACCAGACCC AGGAACCCAN GGCCAAGCTT GCGCCTGAAG  
771 AGCAAGGCTA CTCATGAATG GCTTCCGTAG TNGTAAAGGA TAGCAAGATG GCAAAGGCAA GCCGGTCATN  
841 AAGCCATGGC TTGCCNG

## SEQ. ID NO:42

1 GNNNTTANNN CATTGCGCCC TCTAGATGCA TGCTCGAGCG GCNCGCCAGT GTGATGGATA TCTGCAGAAT  
71 TCGCCCTTGT TGCGCAAGGA GTAGATGAAC GGATTCAGGG CAAGGGAGTG CTGAGGAGAT AGACGGGTAT  
141 AACTGGGCA CAAGTCCATG AGTAATCAAG GCCTGTTATT TAAAAAAGG CTTGAACAAT  
211 ATAGAATCCC ATTACCCAGA GATAGACTGG ATGGTGAATT AAACCTTCTG GTGAATTTCT TTCCAGATAT  
281 CTCTCTATGC ATATGTATAC ACAAGCAATT TTTGGAAGAA AAGATACTTT ATAAGGATAA GCCTGAAAC  
351 TGCAACGAAT GCAATGTGGA GAATGAAGGC AAGATGTGGC GAAGAAGGGC ACCACAATCT GGTGGCTGAG  
421 AGAGTGCAAC TGCTACTACA GCTAAAAGGA GAGCTGGAGA AGCTGGTGAG GACAGTAAGA GATGAATCTG  
491 GTTTAAGACA CGCTGAGTCT CAAATGCCAT GGCTCCCCTA GGTTGCCTCT TCAGATGTAA ATCTTAAGCT  
561 CAAAGCAGGT GGATGAGAAA TCACATTTCA TAGTCCCTGC ACAGACGGCT NTNTTGAGCT

## SEQ. ID NO:43

1 GNNNTTAAAN TCATTGCCCC GNNNGANGCA TGCTCGAGCG GCCGCCAGTG TGATGGATAT CTGCAGAATT  
71 CGCCCTTCCC ATGTATTTGC TTCTCAGCAA CTTGTCCTTC TCTGACCTCT GCTTCTCTTC CGTGACCATT  
141 CCCAAGTTGT TACAGAACAT GCAGAACCAG GACCCATCCA TCCCCTATGC GGACTGCCTG ACCCAAATGT  
211 ACTTCTTCTT GTTATTTGGA GACCTGGAGA GCTTCTCTCT TGTGGCCATG GCCTATGACC GCTATGTGGC  
281 CATCTGCTTC CCCCTGCACT ACACCGCCAT CATGAGCCCC ATGCTCTGTC TCGCCCTGGT GGCCTGTGCC  
351 TGGGTGCTGA CCACCTTCCA TGCCATGTTA CACACTTTAC TCATGGCCAG GTTGTGTTTT TGTGCAGACA  
421 ATGTGATCCC CCACTTTTTC TGTGATATGT CTGCTCTGCT GAAGCTGGCC TTCTCTGACA CTCGAGTTAA  
491 TGAATGGGTG ATATTTATCA TGGGAGGGCT CATTCTTGCA TCCATTCTTA CTCATCCTTG GGTCTATGC  
561 AAGAAATGCT CCTCATCCTC AAGGCCCTTC TNAAGGGTA TCTGCAAG

## SEQ. ID NO:44

1 GNNNTNANT CNTGCCCTGN CCCNCNGCNC NNGCGCCGCG GCGGATGGAT ATCTGCAGAA TTCGCCCTTG  
71 TTAATAAGAG TATAGATGAA CGGATTCAGG GCAAGGGAGT GCTGAGGAGA TAGACGGGTA TACACTGGGC  
141 ACAAGTCCAT GAGTAATCAA GGCCTGTTAT TAAAAAAGG TGAACAATAT AGAATCCCAT  
211 TACCCAGAGA TAGACTGGAT GGTGAATTAA ACTTTCTGGT GAATTTCTTT CCAGATATCT CTCTATGCAT  
281 GTGTATACAC AAGCAATTTT TGGAAGAAAA GATACTTTAT AAGGATAAGC CTGAAACTG CAACGAATGC  
351 AATGTGGAGA ATGAAGGCAA GATGTGGGCA AGAAGGGCAC CACAATCTGG TGGCTGAGAG AGTGCAACTG  
421 TCACTACAGC TAAAGGAGA GCTGGAGAG CTGGTGAGGA CAGTAAGAGA TGAATCTGGN TTAAGACACG  
491 CTGAGTCTCA GATGCCATGG CTTCCCTAGG TTGCCTCTTN CAGATGTAAA TCTTAAGCTC AAAGCANGTG  
561 GATGAGAAAT ACACATTTNA TAGTCACCTG CACAGACGGT TTTTGTAT

## SEQ. ID NO:45

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1 CATGCCCGT CCCNCNAGNT NCNNGCNCCG CGGCCGCNAN GGATATCTGN ANAATTCGCC CTTCCTATGT
71 ATTTACTTCT CCAACTTCTC CTTCCCATCT CTATCATTAG AACCCATTCA TATACACCCT ACGAAACAAG
141 GGCGAATTCC AGCACACTGG CGGCCGTTAC TAGTGGATCC GAGCTCGGTA CCAAGCTTGA TGCATAGCTT
211 GAGTATTCTA ACGCGTCACC TAAATAGCTT GGCCTAATCA TGGTCATAGC TGTTCCTGT GTGAAATTGT
281 TATCCGCTCA CAATTCACAC CAACATACGA GCCGGAAGCA TAAAGTGTA AGCCTGGGGT GCCTAATGAG
351 TGAGCTAAT CACATTAATT GCGTTGCGCT CACTGCCCGC TTTCCAGTCG GGAAACCTGT CGTGCCAGCT
421 GCATTAATGA ATCGGCCAAC GCGCGGGGAG AGGCGGTTTG CGTATTGGGC GCTCTCCGC TTCTCGCTCA
491 CTGACTCGCT GCGCTCGGTC GTTCGGCTGN GCGGAGCGGT ATCAGCTCAC TCAAAGGCGG NAATACGGTT
561 ATCCACAAGA ATCAGGGGGA TAACGCAAGA AAAGACATGT GA

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## SEQ. ID NO:46

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1 GNNNTNATTN ATTGCATTGG GCCCTCTAGA TGCATGCTCG AGCGGCCGCC AGTGTGATGG ATATCTGCAG
71 AATTCGCCCT TAGTGAGTAG ATGAAAGGGT TCAGCATGGG GGTCAACCACA GTGTACATCA TAGCCATGAC
141 AGTGTCTTTT AGAGTAGAAC TATTAGCTGA TGAGCATAAG TAGAGACCAA TAACGGTTCC ATAGAACAGT
211 GACACCACAG ATAGGTGGGA GCCACAAGTA GAGAAGGCCT TGCAGACACC CTTAGAAGAA GGGACCTTGA
281 GGATGGAGGA GACAATTCTT GCATAGGACC CAAGGATGAG TAGGAATGGG ATGACAAGAA TGAGCCCTCC
351 CATGATAAAC ATCACCCTAT CATTAACTCG AGTGTGAGAG AAGGCCAGCT TCAGCAGAGC AGACATATCA
421 CAGAAAAGGT GGGGGATCAC ATTGTCTGCA CAAAAACACA ACCTGGCCAT GAGTAAAGTG TGTAACATGG
491 CATGGAAGGT GGTGAGCACC CAGGACAGCG CCACCAGGGC GAGACAGAGC ATGGGGCTCA TGAGGGCGGT
561 GTAGTGCAGG GGAAGCAGA TGGCCACATA GCGGTCATAG GCCATGGCCA CAAGGAGGAA

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## SEQ. ID NO:47

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1 CNATGGGCC TCTAGATGCA TGCTCGAGCG GCCGCCAGTG TGATGGATAT CTGCAGAATT CGCCCTTCCA
71 ATGTATTTGC TTCTCAGCAA CTGTCTCTTC TCTGACCTCT GCTTCTCTTC CGTGACCATT CCCAAGTTGT
141 TACAGAACAT GCAGAACCAG GACCCATCCA TCCCTATGC GGACTGCCTG ACCCAAATGT ACTTCTTCTT
211 GTTATTTGGA GACCTGGAGA GCTTCTCTCT TGTGGCCATG GCCTATGACC GCTATGTGGC CATCTGCTTC
281 CCCCTGCACT ACACCGCCAT CATGAGCCCC ATGCTCTGTC TCGCCCTGGT GGCCTGTCC TGGGTGCTGA
351 CCACCTTCCA TGCCATGTTA CACACTTTAC TCATGGCCAG GTTGTGTTTT TGTGCAGACA ATGTGATCCC
421 CCACTTTTTC TGTGATTTGT CTGCTCTGCT GAAGCTGGCC TTCCCTGACA CTCGAGTTAA TGAATGGGTG
491 ATATTTATCA TGGGAGGGCT CATTCTTGTC ATCCCATTC TACTCAATCC TTGGGTCTAT GCAAGAAATT
561 GTCTTCTTCA TNCTCAANGG CCCTTCTTTC TAANGGTATC TTGCAAG

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## SEQ. ID NO:48

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1 ANNNCCNTNG GAGCTCCAAA GCAGTGGTAA CAACGCAGAG TACGCCCCCT ATGTACTTAC TTTTGTAAAG
71 TCCAACCTCC ATCCTCCTTG GCCTTTTGAT TCAATTGATC ACTCCTTCCT CCTCAAACA CCTTGTTTAC
141 TCATCCTTTC TCAGTCTCCT TTGTGGATTG TTCTCATTT ATTTGACCTC TTGCTGGTGA ACCCTTTCAT
211 ATACACTCTC CGTAACAAAG AGGGCGTACT TCTGTCGTCT TGAGCGNACT GATGGNACCC AGCTTTTGT
281 CCCTTTAGTG AGGNTAATT GCGCGCTTGG CGNAATCATG GNCATAGCTG NTTNCTGNGN GAAANTGNTA
351 TTTCGNTNAC AATTNCACAC AACATACNAG CCGGGAGCAT AAAGGGNNAA GNCCTGGGGN GCCTAATGAG
421 GGAGCTTACT CACAATAATT GGGGTGNGCC CACTGGCCCC TTTTCAGGCG GGAAAACCTN GCGGGGCCAG
491 CTGGAATAAA TGAATCGGGC CACGCGCCGG GGAGGAGGGC GGGTTNNGGA ATTGGGCGCT TTTTCCNTTT
561 CTNGGTAAAT GGACTIONG TNACNNGTCC GTTCGGTTGG GGGGANCNGN NNT

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## SEQ. ID NO:49

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1 AACGCAGAGT ACCGCCCACT ACGTAATCTG TACATGAAAG GGTTTAAAAG AGACTGGGAA GAGAGGAATT
71 GGCAAGATCA AGCAGAGGCA ACTCCTTCTA GTCCTTCTAG TACCGCAAGG GGCAGATAAA TGGAAATGGT
141 AACACCTAGA GGAAAGTATA CTTGCCAAAA GCAAATNCAT AGGGGGGAGT ACATTATCGG GTTGAAAAAA
211 GTATTCCATG CAGATAAAAA CAAAAGCAA ATACATCGGG GCGTACTTTC TGTCTCTTT GAGCGTACTG
281 ATGGTACCCA GCTTTTGNCT CTTTAGTGAG GGTAAATTGC GCGCTTGGCG TAATCATGGT CATAGCTGGT
351 TTCTGTGTGA AATTGTTATC CCGCTCACA TTCACACAAC ATACGAGCCC GGGAGCATAA AGTGTAAGC
421 CTGGGGTGCC TAATGAGTGG AGCTTACTTA CATTAATTTG CGTTGCGCTC ACTGGCCGCT TTTCCAAGTC
491 GGGAAACCTG TCGTGNCAGC TTCANTAATG AATCGGCCAA CGCCGCGGGG AGAGGCGGGT TCGGTATTGG
561 GCGCTCTTCC GCTTCTTNGT TNACTGACTT CGG

```

## SEQ. ID NO:50

1 GNNNTTTAAC NCCGGNGCTN CNAGCAGTGG AACACGCAG AGTACGCCCC CGATGTACTT TCTTTTTCAG  
71 TCTCAAGTCT TCCTCTTCTC CAAAGATTTT GTCTTTTCTA CTACCTGAGC TACCAAATCC CTTGTCATCA  
141 ATTTCAATAA CTGTATTCTC TTCATCATT CAACTTCAAA CGTGTCATCT CAGAACAAGC TTCATGTTAC  
211 TTCCAATTTT ATCCTTCTTG TTTGCTGATT CCAAGAATTC CAGTCCCATC TAGGCCCCGA ATGCATTGTT  
281 CCTGCCACCC TTTTCATATC CTCAATTCCC TTGTATCATC ACTTTCCTTT TATATAGCAC AGATTCCATG  
351 ATTCATAACA ATAATTATGT TTTTTTTTGC ATGTGCTCTT AATTTCTTTT CTTGCTCCTA TTATCTTCTA  
421 TCATACTTTT CTGGAAACAC TAATTCTGGT GAAATATACT CTTTGTGGAC TTTGCACTTA TGCTCAGTCA  
491 GCTGAAGATG ATGGCTAGAC AAATACTCAC AATCATGCTG ACTGGCCCAA TTTATAGTCA TGACCACCGA  
561 TTACAAACCC CTTCAATTAT TCTCCGCAAC AGGGGCGTCT TCTGCGCTTG ACCGTCCGGT GGGG

## SEQ. ID NO:51

1 GCAGTGGTAA CAACGCAGAG TACGCCCCGT AC GGAGGCTG TAAATAAAGG GGTGAGGAA GTAAAGTACT  
71 TCACAGTACT GGAGCACACA GCATGTGAAT TTCAGCCAAA GGACAAATGC CTCCAAAAAA AGTTAATTCA  
141 CAGTGCAGCA GGGCGAGGCA CTTGTCTTAT TCGCTGGTTC TCACATTGAC CCTGAAAGGA CTTTTTTTTG  
211 TTAATCCCAT TTTACAGAT GGGAAAGGGA CTCTGTATGG TTGTCACTTT TATCCAAAGT CTCATAGCCA  
281 GTAAGAAGCT GCCCTCAAAG TCCCTACCCT GTCTTCCATT CGACTATTCT GAGGTTTCTA CCCAGAAACC  
351 CCATACCTCT GCCTTATATT TTAATGAAAA GTATGTCTCC AGGTTTATGT GGAGAATAAC CAAGACCTCA  
421 GAAACATTTA GTGAAAATCA GAGCTAGAAG GAATCTGTTT TTTTGCAGT TCAGAGAAAC TGACTTGGAT  
491 AAGACATCAA AGTTGTCTTG TGCAGCAAAT TCTCCTCCGG CACATAGTAG GCACTCTGAT AAATTCAAAA  
561 AGGCTTCTAA GAAGAGGCAG AAGN

## SEQ. ID NO:52

1 GTGAANCCAN NNTAANNCCN ATTGGAGCTC CAAGCAGTGG TAACAACGCA GAGTACGCCC CCGATGTAGT  
71 TTCTTCTTTC CTTCCTTCCC TCCTTCCTTC CTCTTTCTCT TTCTCTCTCT CTCCCTCTCC CTCTCCCTCT  
141 CCCTCTCTCT CTCCTTTTTC TTCTCCTTCC TCCTCCTCCC CCCAATCCGT TCATGACTTC TTCTTCTTCC  
211 TCTTCTTCTT CTTTCTTCTT TTCTTCTTTT TCTCTAAGCA GGATCCTGGG CTGTTCAAAC CAGAGAGCTG  
281 TAAGTCTTTT CTTTCCCCAT TACTGTTAGA TCCGTTGAAT CGGCTCCAGA AACCAAACAA GTTAACCTT  
351 GCATTTACAC GTTTCGTAAC GGGCGTACTT CTGTGCTCTT GAGCGTACTG ATGGTACCCA GCTTTTGTTC  
421 CCTTTAGTGA GGGTTAATTG CGCGCTTGGC GTAATCATGG TCATAGCTGT TTCCTGTGGG AAATTGTTAT  
491 CCGCTCACAA TTCCACACAA CATACGAGCC GGGAGCATAA AAGTGTAAG CCTGGGGTGC CTNATGAGTG  
561 AGCTAACTCA CATTAATTGC GTTGCCTTA CTGNCCGTTT TCAGTCNGGA AAN

## SEQ. ID NO:53

1 TNANNNNNT TAANNCCCAT TGGAGCTCCA AAGCAGTGGT AACACGCAG AGTACGCCCC CGATGTACTT  
71 GCTTCTTCTT CTTTGGAGTG GCTGAATGCT TCCTCCTGGC TACCATGGCA TATGACCGCT ATGTGGCCAT  
141 CTGCAGTCCC TTGCACTACC CAGTCATCAT GAACCAAAGG ACTCGTGCCA AACTGGCTGC TGCTCCTGG  
211 TTCCAGGCTT TTCTGTAGC TACTGTGCAG ACCACATGGC TCTTCAGTTT TCCATTCTGT GGCACCAACA  
281 AGGTGAACCA CTTCTTCTGT GACAGCCCAC CTGTGCTGAG GCTGGTCTGT GCAGACACAG CACTGTTTGA  
351 GATCTACGCC ATCGTCGGAA CCATTCTGGT GGTCATGATC CCCTGCTTGC TGATCTTGTG TTCCTATACT  
421 CGCATGTCTG CTGCCATCCT CAAGATCCCA TCAGCTAAAG GGAAGAATAA AGCCTTTTCT ACATGTTTCT  
491 CACACCTCCT TGGTGGCTCT CTTTTCTATA TATCATTAAG CCTCACCTAC TTCCGGCCTA AATCAAATAA  
561 TTCACCTGAG GGCACGAAGC TGCTATCATT GCCTACACTG NTATGACTCC A

## SEQ. ID NO:54

1 GTTNTTCCAT GGAATCCCAA GCAGTGGTAA CAACGCAGAG TACGCCCCCT ATGTACTTAC TTCTTGCTGG  
71 CTTATCATTT ATAGATATCA TTTATTCTTC ATCCATTTCC CACAGATCGA TTTTCACTT GTTCTTTGGG  
141 AATAATTCCA TATCCTTCCC ATCTTGCTTG GCCAGCTCT TTACAGAGCG CTTTTTTGGT GGGTCAGAGG  
211 TCTTCTTCT GTTGGTGATG GCCTATGACC TTGCACTTCT TGGTTATCAT GAGACAATGG GTGTGTGTTT  
281 TGCTGCTGGT AGTGTCTGG GTTGGAGGAT TTCTGCACTC AGTATTTCAA CTTAGTGTTA TTTATGGGCT  
351 CCCATTCTGT GACCTCAATG TCATTGATCA TTTTTTCTGT GATATGCACC CTTTATTGAA ACTGGTCTGT  
421 ACCGATACCC ATGTTATTGG CCTCTTAGTG GTGGCAATGG AGGACTAGGT TGCATATTG GGNTTCTGCT  
491 CTTACTCATC TCTTATGGNN CATCTGCACT CTCTAAAGAA CCTTAGTCAG AAAGGGAGGT GAAAAGCCCT  
561 CTAACCTGC AGTTCCACAT AACTGGGGGG TGGTTTCTTC TTTGTN

## SEQ. ID NO:55

1 TTANNCCNNT TNAATNCCNT TGGAGCTCCA AAGCAGTGGT AACACGCGAG AGTACGCCCC CAATGTACTT  
71 GCTTCTTCTT TTTTGGGGCT GCTGAGTGCT GCCTCCTGGC CACCATGGCA TATGACCGCT ACGTGGCCAT  
141 CTGTGACCCC TTGCACTACC CAGTCATCAT GGGCCACATA TCCTGTGCCC AGCTGGCAAG CTGCCTCTTG  
211 GTTCTCAGGG TTTTCAGTGG CCACTGTGCA AACCACATGG ATTTTCAGTT TCCCTTTTGT TGGCCCCAAC  
281 AGGGTGAACC ACTTNTTNTG TGACAGCCCT CCTGTTATTG NACTGGTCTG TGCTGACACC TCTGTGTTTT  
351 GAACTGGAGG CTCTTGACAG CCACTGCCTA ATTCATTCTC TTTCCTTTCT TGCTGATCCT GGGATCCTAT  
421 TTCGCATTCT CTTCACTATC TTTAAGGATG CCGTCAGCTG AGGGGAAACA TNAGCATTTCT NCACCTGTTC  
491 CGCCACCTC TTGGGTGGCT CTCTCTTCTA TAGCACTGGC AATCCTTAAC GTA'TTTTCCG ACCCCAATTC  
561 AAGTGCCTTT TTNTGAGAAG CAAAGAAACT GGTGTGCTACT TTTT'TTTCAC AAGGGGNGAC TTCCAATGTT

## SEQ. ID NO:56

1 GNGNTTTNNN CCATGGAGCT CCAAAGCAGT GGTAACAACG CAGAGTACGC CCCCCATGTA CTTTCTTCTT  
71 CTTTGGAGTG GCTGAATGCT TCCTCCTGGC TACCATGGCA TATGACCGCT ATGTGGCCAT CTGCAGTCCC  
141 TTGCACTACC CAGTCATCAT GAACCAAAGG ACTCGTGCCA AACTGGCTGC TACCTCCTGG TTCCAGGCT  
211 TTCCTGTAGC TACTGTGCAG ACCACATGGC TCTTCAGTTT TCCATTCTGT GGCACCAACA AGGTGAACCA  
281 CTTCTTCTGT GACAGCCAC CTGTGCTGAG GCTGGTCTGT GCAGACACAG CACTCTTTGA GATCTACGCC  
351 ATCGTCGGAA CCATTCTGGT GGTCAATGAT CCCTGCTTGC TGATCTTGTG TTCTATACT CACATTGCTG  
421 CTGCCATCCT CAAGGTCCCA TCAGCTAAAG GGAAGAATAA AGCCTTTTCT ACATGTTCTT CACACCTCCT  
491 TGNTGTCTCT CTTTTCTATA TATCATTAAG CCTCACCTAC TTCCGGCCTA AATCAAATAA TTCACCTGAG  
561 GGCAAGAAGC TGCTATCATT GNCCTACACT GTTATGACTC CATGTTGAAC CCCATAATTT ATTCATTGAG  
631 C

## SEQ. ID NO:57

1 TTATNNCCAT TGGAGCTCCA AAGCAGTGGT AACAAACGCA GAGTACGCCC CCCATGTATT TTCTTTTCTT  
71 TGGGGNAGCT GNATGCTTCC TNCTGGCTAC CATGGNATAT GACCGGCTAT GNGNCATCT GCAGTCCCTT  
141 GNNCTCCCAG TCATTATGAA CCAAAGGACA CGGGCCAAAC TGGCTGGTGN TTCCTGGGTC CCAAGCTTTC  
211 CTGNAGCTAC TGNGCAAGAC CACAATGGCT CTTNAGNTTT CCATTCTGNG GCACCAACAA GGTGAACCAC  
281 TTNTTTCTGN GACAGCCGGC TGTGCTGAAA GCTGGTCTGN TGCAAGACAC AGCACTGTTT GAGATCTACG  
351 CCATCGTCGG AACCATTCTG GTGGTCAATG AACCCTTGCT TGCTGATCTT GNGTTCCTAT ACTCGNATTG  
421 GTGCTGCTAT CCCTCAAGAA CCCATCAAGC TAAANGGGAA GCAATAAAGN CCTTTCTCTA CGTGCTCCTT  
491 AACACCTCCC TTGGTGGCCT CTCTTTTCTA ATATAATCNT CTAAGCCTCA ACCTACTTCT TGGGCCTNAA  
561 NTCAAATAAA TTCTTCTGGA GAGGCAAGAA GGTGGTATTC ATTTATNCTA CACTGGTNGN GACTCCATGN  
631 TGGAACT

## SEQ. ID NO:58

1 GTNATNCCNT TTAATNCCNT TGGAGCTCCA AGCAGTGGTA ACAACGCAGA GTACGCCCCG TCCTCAGACA  
71 GTATATGAAT GGGTTAAAAA TGGGCCAGAG CAGATGCAGG AAGATCAAAT AGGAGGCTAC TGCACTAGAG  
141 TCAAATCTAG GGCTGATGGT TTCTTGGGAT GCATAGTAAT AGGTAGATAG AGAAAGTCTT TAGGAGGTAG  
211 AATGGACAGG ACTTCACAAT GCATTAAATG TAGGGAGAAA AAAAATGATT CCTGGGTTTC TAGCTTGAGC  
281 TAGTAGGGAT AGTGGTAGAA TTTACTGATA TGGAAAAGT GAGGAAAAAG AGTTTGAAG AGAAAGATGG  
351 CAAGTTAAAT ACCTGTGGGA AATATAATCA CAGACACTAA ATAGGCAGCT GTGTGGGTGG CAAAGGAGAG  
421 CCATGGGCTA GGAACATACA GTGGGATTCC CTGCAGAGTG ATTGGTTACT GAAGTCAGAG TGTATGAGAC  
491 AGCCTAAGGA GAGAATNCAC ACAGGAGAAG AAAGAATAA ACATTCACTG GCTGGCCAGA GGATGAGAAA  
561 CCAAGAGAT TGGACTGTTT AGGAGCAACA GTGTTGNGAA AAGGGAGAAA NGGTTGAAAT T

## SEQ. ID NO:59

1 GGNTTTANNC NCTGGAGCTC CAAAGCAGNG GTAACAACGC AGAGTACGCC CATTGCGTAG CGTGACATA  
71 AAGGGGTTGG AGCTGAAGGA GGAGATAAAG AAGAAGACAG CCAGAACCTT GTCTCTGTG GGAGATCGCA  
141 GGGATCTTGG GCCGTAGATA GGTATAAGCA AAGGGTGCAT AGTAGAAAGT CACTACAGTG AGGTGGGTGC  
211 TGCAGGTCGA ATAGGCCTTC TTCTCCCTT CTGCAGAGTG CATGTGGTAG ACAGCAAGGA GAATCCGGCC  
281 ATAGGAACAT GCAATACAAA TGAAGGGAAA CACAAGAAAA ATGGTGGTGC TCAAAAACAC GTGCACTCA  
351 TAGACCCAGG TATCCGTGCA GGCTAGGGTC AACATAGCTG GAACATCACA GAAAAAATGA TTGATGGCTC  
421 TGGACTTGCA ATATGGGATA CGGAGTGCAT ATACCGTGTG AGCACAAGAG TTGATGGAGC CTATCATCCA

491 AGATCCTGTT ATCATCAGTG CACACACTCT TTTTCTCATA CGGATGAGAT AGTGGAGAGG AAAGCAAATA  
561 GCCACATAAC GATCATAGGC CATTGATGTC AGGAGCAGCG CTTCTGCACC TGCTAAAGTC AGGAAGAAGA  
631 T

## SEQ. ID NO: 60

1 TGTANTCCN NTTNCTNCC ATTGGAGCTC CCAAGCAGTG GTAACAACGC AGAGTACGCC CTCCTTGTTT  
71 CTGAGAGTGT AGATGAAGGG GTTATAGGAG ATAAAGATCA GGGCAATATG TAGGACAAGG ACACAGACAC  
141 TGACAACAAA GTTGATTATC TCATTGACAG TGGTGTCTGT GCAGGCCAGC TTCAGCAGGG GTCTCACATC  
211 ACAGAAGAAG TGGGAGATGA CAAAGTCATC ACAAAGGGC AGGCCAAACA TAGATGTTAC TTGGACAATA  
281 GCCATGCCCA GGCCAATCCT CAGTGACCCA GATCCCAGTC AGACACAAGC CCTGTTACCT ATGAATACCG  
351 TAAGGGGTTG CAGAAGACCA CATAGCAATC ATATCCCATG GCTATGAGAA GAAAGCAGTT GTTGATGCCA  
421 AAAGTCACAT AGAAGAGCTG AGTGACACAG CCTTGCATGA CAATAAGCTA GTGAGGATTC AAGAGGCGAG  
491 AAAGCATATG GGGAGTAATG GCCACCATGT AGCAGGTCTC AGAGATAGAC AGCAATGCTT AGGAAAAAGT  
561 ACATGGGCGG TACTTCTGTC GTCTTGAGCG TACTGATGGT ACCCAGCTTT TGTTCCTTT

## SEQ. ID NO: 61

1 GTNANNCCNN TGTAGTCCN AAGCNGAGCT AACAAACNNAG AGAACAACGC AGAGTACGCC CCCGATGTAC  
71 TTGTTCCCTAC TCTTTGCTGG ATTTGAAAAC TTCTCCTGT CCGTGATGGC CTATGACCGG TTTGTGGCCA  
141 TCTGTCACCC CCTGCACTAC ATGGTCATTA TGAACCCTCA CCTCTGTGGA CTGCTGGTTC TAGCATCCTG  
211 GACCATGAGT GCTCTGTATT CCTTGCTACA AATCTTAATG GTAGTACGGC TGTCTTCTG CACAGCCTTA  
281 GAAATCCCC ACTTTTTCTG TGAACCTAAT CAGGTCATCC AACTTGCTTG TTCTGATAGC TTTCTTAATC  
351 ACATGGTGAT ATATTTTACA GTTGCGCTGC TGGGTGGAGG TCCCTCACT GGGATCCTTT ACTCTTACTC  
421 TAAGATAATT TCTTCCATAC ATGCAATCTC ATCAGCTCAG GGAAGTACA AGGCATTTTC ACCTGTGCAT  
491 CTCACCTCTC AGTTGTCTCC TTATTTTATG GTGCAATCCT AGGGGTGTAC CTTAGTCTGC TGCCACCCGC  
561 AACTCACACT CAAGTGCAAC AGCCTCAGTG ATGTACACTG GGGCACCCCC AT

## SEQ. ID NO: 62

1 GNNNNNNNAT TTNATGCCNT TNTTGATTCC CNTTNNNNNN NCAAGCAGNG GTAACAACGC AGAGTACGCC  
71 CCCTATGTAT TTCTTCCTAA GATCCAAATA TTAAAATAAA AGACAGTCAT CCCACCACTA ACTAAAGTAG  
141 TGTTTCCAC ACTTCTCTAT TAAGAAGCAT GTGAGATACT TGTTACAAAC ATAACATCCT GGTCCACCC  
211 CAAAGCCACT CAATCAAATA CTCCAGGGAA GGGATCTAGG AATTCGTAGG TTTAACGAGT GGGCAAAAT  
281 GATTATTACC TGTTGGAGAA TCTAGGCAAC AATGAATTAA GGAAAGCTCT CTACCATTTC GTACTGGTAC  
351 CAGGTTTGAG GATCACAGGG AAGAGGGTAA GCATATCAGA CTAGCAGAGC TGCCAGAAT CCGGCTTTCA  
421 AAAGAGAGGT GCCACCCTCT CCCATGTCCA TGTAAGTAGC AAACAACCCT CTCATGTACA CTCTGAGGAA  
491 CAAGGGGGCG TACTTCTGTC GTCTTGAGCG TACTGATGGT ACCCAGCTTT TGTCCCTTTA GTGAGGGTTA  
561 ATTGCGCGCT TGGCGTAATC ATGGTCATAG CTGTTTCCTG TGTGAAATTG TTATCCGCTC ACAATTCT

## SEQ. ID NO: 63

1 TGTAGCTCCA AAGCAGTGGT AACACGCAG AGTACGCCCT CTTGGTTACG TAAGGGAATA GATGATGGGG  
71 TTCAGCATGG GGGTGACTAC AGTGATCATG ACAGTGGCCA CACGGTCCCA CTCTGCTCGC GTCGGGACGT  
141 GGCCTGGAAG TAGACTGCAA TGACTGTCTT ATAGAAAGAG GCTCACCACA NCCAGGTGGG AGCCACAGGT  
211 GGGNCACAAG TCCCGGAGCC TCCAGAGGC TTGAGGGCAG CTGGAGCACG GGNAAGCTTG NTATGGNCCC  
281 ACAAGGAGGC GAGGATGAGC AGNAAGGGAG TGACCACCAC TTGCNCGGCC CTNGGTGAAG ATGAGCAGCT  
351 TGGATGTGGT GGNTGTGAGA GCACGAGAGC CTTTAAGAGA GGCTTGGTGG GTCACAGAAG AAGTGGGNGC  
421 ACTTTGTGGG AAAGCACAGA AAGGACAAGC GAGCCATGAG CAGGATATAC AGGAGGGAGT TGTCCGTGGG  
491 ACACCAGCCA TGCCATTCCA ACCAGGGCTG CGCACATNGC CGGGGACATT CTCGTGGGAT AAGGGAAGGG  
561 GTGCCGGATN GGCACGTATC AGTCATAGGC CTTGGNCGCC AGAAGACAGC TTTNAATTTA CCCCAGG

## SEQ. ID NO: 64

1 GTTANNCCNT NTANCTNCAA NNGAGGTAAC AACGCAGAGT ACGCCCCCA TGTATTTGCT TCTTGTCCTAA  
71 CCTGTCTTT GTAGAGATCT GCTACACCAC CGTTGTGGTG CCCTTGATGC TTTCCAACAT TTTTGGGGCC  
141 CAGAAGCCCA TTCCATTGGC TGGATGTGGG GCCCAAATGT TCCTCTTTCT CACACTTGGT GGTGCTGACT  
211 GTTTCCTCTT GCGATCGTG GCCTATGACC GCTATGTGGC CATCTGCCAC CCTTTGCACT ACCCTCATC  
281 ATGACCTGCA GTCTGTGCGT GCAGATGCTG GCGGGCGCTG TGGGCTGGC CCTCTTCTC TCCCTGCAGC  
351 TCACCGCCTT AATCTTCACC TTGCCCTTCT GCGGCTACCG CCAGGAAATT AACCATTTC TCTGCGATGT

421 ACCTCCGTCC TGC GCCTGGC CTGCGCTGCA TCCGTGTTCA CCAGGCTGCC TCTATGTCGT GAGCATCCTC  
 491 GTGCTGACCG TCCCCTTCTT GCTCATCTGC GTCTCCTACG TGTTTCATCAC CTGTGCCATC CTGAGCATCC  
 561 GTTCTGCTGA GGGCCGGCAC CAGGCCTTTT CAACTGCTCT TCCGG

## SEQ. ID NO: 65

1 TGTAGCTCCN AAGNNGAGNT ANCAACGCAG AGTACGCCCC CGGAATCTAT AGATGAAAGG GTTTGGNGAG  
 71 TCAGAAAGAG GAAGTACATG GGAGTCATAA CAGTGTAGGA CAATGATGGC AGCTTCTTGC CCTCAGGTGA  
 141 ATTATTTGAT TTAGGCCGGA AGTAGGTGAG GCTTAATGAT ATATAGAAAA GAGAGACAAC AAGGAGGTGT  
 211 GAGGAACATG TAGAAAAGGC TTTATTCTTC CCTTTAGCTG ATGGGATCTT GAGGATGGCA GCAGCAATGT  
 281 GAGTATAGGA ACACAAGATC AGCAAGCGGG GGATCATGAC CACCAGAATG GTTCCGACGA TGGCGTAGAT  
 351 CTCAAAGAGT GCTGTGTCTG CACAGACCAG CCTCAGCACA GGTGGGCTGT CACAGAAGAA GTGGTTCACC  
 421 TTGTTGGTGC CACAGAATGG AAAACTGAAG AGCCATGTGG TCTGCACAGT AGCTACAGGA AAGCCTGGGA  
 491 ACCAGGAGGT AGCAGCCAGT TTGGCACGAG TCCTTTGGTT CATGATGACT GGGTAAGTGC AAGGGACTGC  
 561 AGATGGCCAC ATAGCCGGTC ATATGCCATT GGTAGCCAG GANGAAGCT

## SEQ. ID NO: 66

1 GTTATNCCTT GTTGCTCCCN AGCAGAGGTA ACAACGCAGA GTACGCCCCCT ATTTCTCAGA TATANGATGA  
 71 AGGGGTTTCAG AAAAAGAATG AGCAAAGAAA ATCTGGGCCA GGCGGGCATC AAAAGAAATA GTCTTGTGCT  
 141 CAACCAGAAA GTCTGCAATC ATTTTAGGGG TAGCAGAAGA GGCAACACAT ACGTCTATAA ATGACAGGTT  
 211 GGCAAGAAGC AAATACATTG GGGGCGTACT TCTGTCTGCT TGAGCGTACT GATGGTACCC AGCTTTTGT  
 281 CCCTTTAGTG AGGGTTAATT GCGCGCTTGG CGTAATCATG GTCATAGCTG TTTCTGTGT GAAATTGTGA  
 351 TCCGCTCACA ATTCCACACA ACATACGAGC CGGGAGCATA AAGTGTAAG CCTGGGGTGC CTAATGAGTG  
 421 AGCTAACTCA CATTAATTGC GTTGCGCTCA CTGCCCGCTT TCAGTCGGGA AACCTGTCTG GCCAGCTGCA  
 491 TTAATGAATC GGCCAACGCG CCGGGGAGAG GCGGTTTTCG TATTGGGCGC TCTCCGCTT CTCGCTCACT  
 561 GACTCGCTTG CGCTCGGTG TTCGGCTTGC GCGAGCGGT ATCAAGCTCA CTCAAAT

## SEQ. ID NO: 67

1 GGGTTTTACN CTGTGCNCCC CCAGCAGNGG TAACAACGCA GAGTACGCCC TTGTTGCGAA GAAATAAATG  
 71 AATGGGTTTA AAATAGACGT GAAGATGGTG TAGAATACAG CAAGGACTTT GTCAACTGAG TAACTGCTGA  
 141 AGGGCCACAC ATAGATGAAA ATACACGATC CAAAGAATAA AGTGACCACA GTGATGTGAG CAGTCAATGT  
 211 GGAGTGGGCC TTCACCATGC TTACAGAGGA GCGATTCCTA ACTGTAATAA GTATTACAGT GTAGGANACA  
 281 ACCAANAGGA GAAAGGAAC CAGAGAAAGA AAGCCACCAT CTGCAACTAT TAGTAGGCTG ACAACATAAG  
 351 TGTCTATGCA GGCTAACTTN GTNGCTAGAG GAAAGTCACA GAAAAAACT ATCTACCTTA TTAGGACCAC  
 421 ANAATGGCAG ATTAACCGTG AATGCCAACT GGCTGGTGGT ATGGATGAAG CCCACAAACC AGGAAATGAG  
 491 GACGAGCACA ACACATACAC AGNAGCTCAT GATTGANATG TAGTGNGGAG GTTNTCTNTN GCTCATANCC  
 561 GTNTTNGCCA TNGNAACTNG GANACCATT TTAATTGCAG TGNNGGAGNG AACATGAAAT N

## SEQ. ID NO: 68

1 GTTANNCCNN TTAAATNCNA TGGAGCTCCA AAGCAGTGGT AACAACGCAG AGTACGCCCC CGATGTACTT  
 71 GTTCCTACTC TTTGCTGGAT TTGAAAACCT CCTCCTGTCC GTGATGGCCT ATGACCGGTT TGTGGCCATC  
 141 TGTCACCCCC TGCACTACAT GGTCAATTAT AACCTCACC TCTGTGGACT GCTGGTTCTA GCATCCTGGA  
 211 CCATGAGTGC TCTGTATTCC TTGCTACAAA TCTTAATGGT AGTACGGCTG TCTTCTGCAC AGCCTTAGAA  
 281 ATCCCCCACT TTTTCTGNGA ACTTAATCAG GTCATCCAAC TTGCTTGTTT TGATAGCTTT CTTAATCACA  
 351 TGGTGATATA TTTTACAGTT GCGCTGCTGG GTGGAGGTCC CCTCACTGGG ATCCTTTACT CTTACTCTAA  
 421 GATAATTTCT TCCATACATG CAATCTCATC AGCTTAGGGG AAGNACAAGG CATTTTCCAC CTGTGCATCT  
 491 CACCTTTCAG TTGCTCCTTA TTTTATGGNG CAATCTAGGG GTGACCTTAG TTTTGCTGNC ACCCGCAACT  
 561 CACACTTAAG TGCAACAACC TCAGTGATGT AACTGGGGT CACCCCATGC C

## SEQ. ID NO: 69

1 GNGNNNCAG NTTANNCCCT GGACTCCAG TAGAGCTACN ANGANTNCGC CNAGCGCGCA NTTNNNCCAG  
 71 GGTNNTNTTN GTATACCAA TGAATAGAAA ACAGACACCA CCTTGTCCCT GCCTAGCAAG TAGCTGGAGC  
 141 TGGGTCGCAA GTACACGAAA AGGGCTGTCC CAAACAGCAG AGTACCAACC ATCAGATGCG AGGCACACGT  
 211 GTTGCAGGCT TTCCATCGGC CCTCTGCTGA AGGGATCTTC AGGACCGCAG ACACTATGTA ACCATAGGAG  
 281 ATAAGGAGTT GGAGGAACGA TGTTCCCTCCG ACGGTGACCA CCACGAGGAA ATTCACCACT TGA CTGAGGA  
 351 AGGTGTCAGA GCAAGACAGA GCCAGGACTG GTGGGAGGTT GCAGAAGAAG TGTTGATGA TGTGGGTCC

421 GCAAAAGTGA AGCCTAAATA TGGAGCTGGC CTGGATCAGG GAGCTCAGGA AGCCACCAAC ATATGCCCCA  
491 ACCACCATGC GTGTACAGAG GCCCTGGGTC ATGATAGTGG GGTANAGAAG GGGGCTGGAG ATGGCTTGCA  
561 TATCGGTCGT ATGCCATAGC AGTCANGAGG AGGCACTCAA GACAGACCCA TGCCGACNAA GAAAT

## SEQ. ID NO:70

1 GNNNNNTTTTA CCCCTGNNGC ACANAGCAGT GGTNACAACG CNCGAGTACG CCCCCTATGT ATTTTTTCCT  
71 ATTCTGGACA CGCTACTCCT GACCGTGATG GCCTATGACC GGTTTGTGGC TGTCTGCCAC CCTCTGCACT  
141 ATATGATCAT CATGAACCCC CACCTCTGTG GCCTCCTGGT TTTTGTCAAC TGGCTCATTG GTGTCATGAC  
211 ATCCCTCCTC CATATTTCTC TGATGATGCA TCTAATCTTC TGTAAGATT TTGAAATTCC ACATTTTTTC  
281 TCGGAACTGA CGTACATCCT CCAGCTGGCC TGCTCTGATA CCTTCTGAA CAGCACGTTG ATATACTTTA  
351 TGACGGGTGT GCTGGGCGTT TTTCCCCTCC TTGGGATCAT TTTCTCTTAT TCACGAATTG CTTTCATCCAT  
421 AAGGAAGATG TCCTCATCTG GGGGAAAACA AATAGCACTT TCCACCTGTG GGTCTCACCT CTCCGTCGTT  
491 TCTTTATTTT ATGGGACAGG CATTGGGGTC CACTTCACTT CTGCGGTGAC TCACCCTTCC CAGAAAATCT  
561 CCGTGGCCTC GGTGATGTCA CTGNGGTCAC CCCCATGTTG ACCCTTTCAT TTACACCCTT AGCAAG

## SEQ. ID NO:71

1 GNNNNNNNNN GTTNATNCCN NTTTAAATGC CANTNGAGNT AACAAACGCAN GAGTACNCCN NNGNGTACGC  
71 CCAGGGTTCA ACCNNTGAAT AGAAAAACAGA CACCACCTTG TCCCTGCCTA GCAAGTAGCT GGAGCTGGGT  
141 CGCAAGTACA CGAAAAGGGC TGTCCTCAAAC AGCAGAGTCA CCACCATCAG ATGCGAGGCA CACGTGTTGC  
211 AGGCTTTCCA TCGCCCTCTG CTGAAGGGAT CTTCAGGACC GCAGACACTA TGTAACCATA GGAGATAAGG  
281 AGTTGGAGGA ACGATGTTCC TCCGACGGTG ACCACCACGA GGAAATTCAC CACTTGACTG AGGAAGGTGT  
351 CAGAGCAAGA CAGAGCCAGG ACTGGTGGGG AGGTTGCAAG AAGAAGTGGT TGATGATTGT TGGGTCCCGC  
421 AAAAGTGAAA GCCTAAATAT NGAGCTGGCC TGGATCAGGG GAGCTCAGGA AGCCACAACA TATGCCCCAA  
491 CCACCATGCG TGTACAGAGG CCCTGGGTCA TGATAGTGGG GGTNGAGAAG GGGGCTTGA ATGGCTGCA  
561 TATCGGTCTG TGCCATAGCA AGTCAGGAGG AGGCACCTTA GACAGACCCA TGCCNCNAAG AAAAAAACT  
631 GNC

## SEQ. ID NO:72

1 GNNNNNNNNN NTTNNNNCN TNACTCCNGC AGTGGTAACA ANNANTACGC NCAGCGCGCA GTTAACCCCTC  
71 ACTAANGGTA ANNTNAGCTG GAACACATCA NTACGNTCAN GNNNGCNCNA TGACCGGTTT GTGGNCATNT  
141 GTCACCCCTT GCACTACATG GGTCAATTATG AACCTCACC TCTGTGGACT GCTGGTTCTA GCATCCTGGA  
211 CCATGAGTGC TCTGTATTCC TTGCTACAAA TCTTAATGGT AGTACGGCTG TCCTTCTGCA CAGCCTTAGA  
281 AATCCCCCAC TTTTCTGTG AACTTAATCA GGCATCCAAC TTGCTTGTTT TGATAGCTTT CTTAATCACA  
351 TGGTGATATA TTTTACAGGT TGCGCTGCTG GGTGGAGGTC CCCTGACTGG GATCCTTTAC TCTTACTCTA  
421 AAGATAATTT CTTNCATACA TGCAATCTCA TCAGCTCAAG GGGAGTCAA GGCATTTTTC ACCTGTGCAT  
491 CTACCCCTCA GTTGCTNCTT ATTTTATGGN GCAATCCTAG GGGTGACCTT AGTTCTGGTG GCACCCGCAA  
561 CTACACTCAA TGCACAAGCT CAGTGATGTA CACTGTGGCA CCCATGCTGA ACCN

## SEQ. ID NO:73

1 GTNNNNNNN TTGATTNCCA TTGGAGCTCC AAAGCAGTGG TAACAACGCA GAGTACGCCC CCTATGTATT  
71 TTTTCTTATT CTGGACACGC TACTCCTGAC CGGGATGGCC TATGACCGGG TTGNGGCTGG CTGCCACCCT  
141 CTGNANTATA TGATCATCAT GAACCCCCAC CTNTGTGGCC TCCNGGTTTT TGNCACCTGG CTCATTGGTG  
211 TNATGACATN CCTCCTCCAT ATTTCTCTGA TGATGCATCT AATCTTCTGT AAAGANTTTG AAANTNCACA  
281 TTTTTTTNTG CGAACTGACG TACATNCTCC AGCTGGCCTG CTCTGATACC TTCTGAACA GCACGTTGAT  
351 ATACTTTATG ACGGGTGTGC TGGGCGTTTT TCCCTCCTTG GGATCATTTT CTTCTTATTC ACGAATTGNT  
421 TTNATCCATA AGGAAGAATG TCCTCATNTG GGGGAAAACA AATAAGCACT TTNACCTG TGGGNCCTCA  
491 CCTCTTCCGN CGTTTCTTTA TTTTATGGGG ACAGGCATTT GGGGTCCCAC TTTACTTTTT GNGGNGACTC  
561 ACCCCTTCCA GAAAANTTTC CGTGGGCNTC NGGGATGTAC ACTGGNGGCA CCCCATGTT GAACCTTTT

FIGURE 2

## SEQ. ID NO: 111

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gggtccentcg ngatatnctt naccctctga tgetgctcga gcggccggca gggatgatga 60
tatctgcaga attcgccctt ctgttacgca ggaatatata aaggggttac tgaggaataa 120
ataaatgggt tactgaggaa taaataaatg gggtactgag gaacaaatac atagggttga 180
aagaactgta aaatagaaaa aggaccttnt gctgctcctc aggatggcgg nacttagggg 240
ccatgtacat gacgatgng ctgccntna agagtccac tntcaneng cctcagcccg 300
ncttttntct caennnccnt nttntctnc cctctnnnc tctttnttc ctattcccc 360
ccctccnct cctccctttt gcntnaccat tgnccctnat ccctttaatt cnntcnntcn 420
tctccctctt attccttcnn tnttcgntt cantctctnc ctctttctcc cctnctttct 480
ctentctnct ctctctctng tcatctctng tctttctctt ncttanttcc ctctancctt 540
ntcttatnct tctctatnct cctctcatct cactctctnt cctctctntcn tactttnnct 600
nctctctcn cctcgtctnt cctttctctt tentnaegcc accctcnnn nntnctctct 660
ntctctctct cactctctcc tctccctnct cntcactntt ctccnctct acntcctatn 720
ctcnctttct nctttnactt tgtcacgctc tctctctctt ctctacgcac nttttatctc 780
ttatctcnct catcnccctc nntctnctac nctattnact cttttctctc atactntatn 840
ctcctntcn cttanatcn cctccttctn tnanccntc actgcn 886

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## SEQ ID NO: 112

```

gctgctcgag cngcgcagcg tcggcagtgt naggggnatn tgccnnntn gcnnttagat 60
nanaggntn agtatggggg tgaccacagt ggtacataac tgaggctgtt gcacttgagt 120
gtgagttgag ggtggcagca gaactaaggt acacccttag gattgcacca taaaataagg 180
agacaactga gaggtgagat gcacaggtgg aaaatgcctt gtacttcccc tgagctgatg 240
agattgcatg tatggaagaa attatcttag agtaagagta aaggatccca gtcaggggac 300
ctccacccag cagcgcaact gtaaaatata tcaccatgtg attaagaaag ctatcagaac 360
aagcaagttg gatgacctga ttaagttcac agaaaaagt ggggatttct aaggctgtgc 420
agaaggacag cgtactacc attaagattt gtacgaagga atacagagca ctnatggtcc 480
aggatgccag aaccagcagt cacagagggg gnggggttca tantgnccct gtagngtcag 540
cnnngacna gatggccnca aaccgntctt nggccctcac gncctggna ggnngtttct 600
tantccacca cnnntnttct nannc 625

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## SEQ ID NO: 113

```

catgcnngag caggctcgag cgccggcagn gtgagggata tctgcagaat tcgcccttcc 60
tatgtacttt ttctgagcg tatacacaat cccatcatgt actggggaga agncagacca 120
tatcattnac aagctgnctt tngcagatgn actttgnttt ctcattaggc tgcncagagt 180
acttctctct ggcagccatg gcttatgacc gctgtcttgc catctgctat cctttacact 240
acggagccat catgagtagc ctgctctcag cgcagctggc cctgggctcc tgggtgngtg 300
gtttcgcgcn cantgcagcg cccacagccc tcagnagcgg tcttgctctt ctgngncccc 360
cgtgccatta accactnctt tngcngcant gnccttgca ttgtcttgc ctgccacca 420
nacagcagna nancntgngn cnnttngatc gctgntnccg tctcngntct cactccttcc 480
caccttttnc ntcgcattcc nntntccnnc tgcncctct gncnntcnn tctcctcttc 540
tnaacgcgtc ctccgannng nctnnatgnt cgtctctntn ntgngcnng ncagcnnnnn 600
nnccannnn tngtgccgc gctcc 625

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## SEQ ID NO: 114

```

gnttaagccc tnnccctctn gangcatgct cgagcggccg ccagtgtgat ggatatctgc 60
agaattcgcc ctgtttccgc aaacaataga tgaaaggatt aagtgaagga gtgccaccg 120
catagaagag accaaagaac ttgccctccc ctggggcata cggatttttg ggctggaggt 180
agacagcnat gactgagctg tagaagaggg tgaccacagt gagatgggag gagcaggtcc 240
caaaggcctt tctccatgct gtggcagagt taatcctcag cactgcctgg gcagtggctc 300
cataagaggc aaggatgagg ctgagaggca caaccacgaa gatgacactg gacacagcca 360
actggatttc attgnaggag gcactctccac aggagagtn gnatcagaga tgggancctc 420
acataaaaaa gtcactctac tngtggtggg gacagaatgn ccatgtggag gntnnatgtn 480

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cgtntennac ctcttatttt tnttneccct ttcttttgegt cnntceccent tntceccnnet 540
cgccanttcc atnncntctc ntctnttttt ttntntnacc ntntntnecat ntctctctct 600
tattctcttt ctcttgnctc tccctctctc ctctntnttcc canctctccc g 651

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## SEQ ID NO: 115

```

ggntctcggt acaanacttg gccctctaga tgcattgctcg agcggcgccg agtgatgatgg 60
atatctgcag aattcgccct tccaatgtat ttattcctgt tatttgagaga cctggagagc 120
ttcctccttg tggccatggc ctatgaccgc tatgtggcca tctgcttccc cctgcaactac 180
accgccatca tgagccccc gctctgtctc gccctgggtgg cgtgacctg ggtgctgacc 240
accttccatg ccatgtttaca cactttactc atggccagnt tgtgcttntg tncchnacna 300
ttgttgnctc cccactnnnc tntgtntna gtctnctctn cctnnactg ctctcctct 360
tntccnnga gtccctcngn nncgtngtcg nttncngcnn tcaattgcan tncnncntc 420
atcctttctt tantnttcca tntnttactc nattntctct tatccnncnt ntnccectcc 480
anctcctnct tagcttactn tttctgtctc tccngnctc ancttttctn ccataatntc 540
ttctctcncn tntctctcnc tnnnncccn nntctctcgt ntctctgctc cntcttnacg 600
tctntnncet tatttantnt ctncncctn tctcngctc cancgngta ccngccctat 660
nnctctctcc gannntgntc atggcatctn cacattngc cctactatnn ncgatctatn 720
ttcncgncat ntattncaca tccacntgca ctctactcnc ctctctance nccgtacatc 780
gcnctacng ntgnncntcn nccgctctn cgcccnctn nctccactt tntctnggtc 840
ccccctctcg 850

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## SEQ ID NO: 116

```

gatgcatgct cgagcgcccc cagtgtgatg gatattctgca gaattcgccc ttccaatgta 60
ctttttcctg aagaacctct ctgttttgga tctgtgctac atctcagta ctgtgcctaa 120
atccatccgt aactccctga ctgcgagaag ctccatctct tatcttggt gtgtggctca 180
agcctatttt ttctctgctt ttgcatctgc tgagctggcc ttcttactg tcatgtctta 240
tgaccgctat gttgccattt gccacccctc ccaatacaga gccgtgatga catcaggagg 300
gtgctatcag atggcagta ccacctggct aagctgcttt tctacgcag ccgtccacac 360
tggaacatg tttcgggagc acgtttgcag atccaatgtg atccaccagt tcttccgtga 420
catccctcag gtgttggtccc tggtttctct ngaggttttc tttgtagagc tttgaccng 480
ccctgagcct caatgcttg ntctgggatg ctttattccc atgatgatc ccnattttcc 540
anatctctn aanggggtc nagaatccct tnaggaccag antcnagta aaagccttn 600
ccnnetgct tccccccag 620

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## SEQ ID NO: 117

```

tggcncctng atgcatgctc gagcgccgc cagtgtgatg gatattctgca gaattcgccc 60
ttccaatgta ttgttctctg ttatttgag acctggagag ctctcctct gtggccatgg 120
cctatgaccg ctatgtggcc atctgcttcc cctgcacta caccgccatc atgagcccca 180
tgctctgtct cgccctgggt gcgctgtcct ggtgctgac cacttccac gccatgttac 240
acactttact catggccagg ttgtgtttt gtgcagacaa tgtgatcccc cactttttct 300
gtgatatgct tgctctgctg aagctggcct tctctgacac tctagttaat gaatgggtga 360
tatttatcat gggagggctc attcttgcac ccatctcta ctnatccttg ggtcctatgc 420
aagaattgtc tctccatcc tcaaggctcc ttcttctaag ggtatctgca aggccttctc 480
tacttggtgc tcccaccctg tctgnggtgt cactggttct atggaaccgt tattggtctc 540
tacttatgt cntcagctaa tagttctact ctaaggaca ctgcatggct atgatgtaca 600
ctgtggtgac ccccatgctg aaccctt 628

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## SEQ ID NO: 118

```

gatgatgctc gagcggncgc agtgngatgg atatctgcag aattcgccct tcccatgtat 60
ttgttctctg gcaacctctc ctctctggag atttggtata ccacagcagc agtgcccaaa 120
gactggcca tctactggg gagaagacag accatatcat ttacaagctg ccttttgag 180
atgnacnntg ttttctcant angcctaca gngnncatgt ttncgcnngc cntgacttat 240
gacgcgcntn cnnncntatc nnnntntnct ntnacncnac ttctcatna tntgnncntn 300

```

```

nnttcnccn tggennctn nntcnegnc ttncctntgn ncgtentenc ccttnggcct 360
gcattctcnc ntnttcctnn ccnncgnnct ntctttcctt cntacctntt ttctgtntnn 420
tccctccctt ctctgnntgc nntcnennn catctnnntg ntctgatcnc tntcttntnt 480
ccatcnngtn ctntttcttc gtntcttctn cncgccncc gcactactgn gcattatain 540
cncngtctca tnnctatctt ccgtntctgt cnccttctct ctatgcncga cgtcntntnn 600
tactatcgte ntctcnntat tnnngcctgt tccnnngcnc ccgnncttcc anntactctc 660
cangntctc ctnttcctnt ncnctgtcta attcnctnt accgentctn gntctntcct 720
cgtenntccc nnttctctcc nctcnegnnn ccnttcagct ntcnanttct antnngnnn 780
cnc 783

```

## SEQ ID NO: 119

```

nntagatgca tgcctgagcg gcccgccagt gtgatggata tctgcagaat tcgcccttcc 60
tatgtatttc ttctggcca acctgtcctt ctgggagacc tggtagatct ctgngactgt 120
gcccaagtta ctgtttagtt tttggtctgc gaacaacagc atctctttca cactctgtat 180
gatacaactg tactttctca ttgctncat gngcacagaa tgcgtgcttc tggccgccat 240
ggcctatgac cgtatgtgg ncatctggcg cccactccac tacccaacca taantgagcc 300
atgggctcct gctccnccct cgctntnnna tanngaaccn acagngtagc gncanctccc 360
tgtncgagaa tctacttcat cntnctgcct tannttntgt gggcccaatg tgcntaanca 420
cttngntctg nggacatttn ctccagnant tnaantctct tntcgnaca agnactgtt 480
cnttancttg annatnttn ggnacattnt tccatngnn ttggnacgag cntntctanc 540
accngcactn cncantaant gctncngtgc tantcngtgc cattcntgtg nctnccntt 600
tcatngcntn nctcccneg aaagcnaant aagtnngngt cttnacttcc gccccccacn 660
ncatcnant ggcc 674

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## SEQ ID NO: 120

```

ggccctctag atgcatgctc gagcgccgc cagtgtgatg gatattctgca gaattcgccc 60
ttcctatgta ttttttctg ttatttggag acctggagag cctcctcctt gtggccatgg 120
cctatgaccg ctatgtggcc atctgcttcc cctgcacta caccgccatc atgagcccca 180
tgcctgtct cgcctgggtg gcgtgtcct ggggtgtgac caccctccat gccatgttac 240
acactttact catggccagg ttgtgtttt gtgcagacaa tgtgatcccc cactttttct 300
gtgatatgct tgcctgtctg aagctggcct tctctgacac tcgagttaat gaatgggtng 360
atatttatca tgnagggtc cattcttgc atccattcc tactcatcct tgggtcctat 420
gcgagaattg tctcctcct cctcaaaggc ccttcttct aangggatc tgcaaggcct 480
tctctacttg gtggtcctcc cctgntctgt ggtgtcactg ttctatttg aaaccgntat 540
tgggactcta ctatgtctc tcatgctaag agttttactc ttangggaca ctgncaatgg 600
cctntgaagn taccctggg gtggaccccc atnntngaac ccc 643

```

## SEQ ID NO: 121

```

ggccctctag atgcatgctc gagcgccgc cagtgtgatg gatattctgca gaattcgccc 60
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cctatgaccg ctatgtggcc atctgcttcc cctgcacta caccgccatc atgagcccca 180
tgcctgtct cgcctgggtg gcgtgtcct ggggtgtgac caccctccat gccatgttac 240
acactttact catggccagg ttgtgtttt gtgcagacaa tgtgatcccc cactttttct 300
gtgatatgct tgcctgtctg aagctggcct tctctgacac tcgagttaat gaatgggtga 360
tatttatcat gggagggtc attcttgc atccattcc ctcatccttg ggtcctatgc 420
aagaattgnc tcttccatc tcaaggncct tntttctaaa gggatatctgc aaggccttct 480
ctanttggtg ctccaccct gtcttgtggn tggcactgnt tctaattgga accggtaat 540
gnancnctna cnttatgctc natcaactta aatagtttct nactttnaaa gggaccactn 600
ntcattggct tanggatngn ncnttgggtt cntggaaatc ccatcattc ttacnng 657

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## SEQ ID NO: 122

```

atgaccctna gatgcatgct cgagcggccg ccagtgtgat ggatatctgc agaattcgcc 60
cttccaatgt atttgttccg gtccaacctg tcttttttgg atattggctt tatctctaca 120
ataattccca atatgctaga tcatattagc tcaggaatta agctgatttc ttatggggag 180
tgtctgacac aactctatth ctctggccta tttgcagatc tggacaacaa ctttctcctg 240
gctgtgttgg ccttgaccg ctatgtggcc atcagccatc ctctccatta tgcctaacc 300
atgaactccc aacgctgtgt cctgttggtg gctgtgtcat gggatcacac tattttacat 360
gccctagtgc ataccctcct agtgaccagg ctttccttct gtggtccaaa tattatccct 420
cacttcttct gtgatctggc cccactcctg aagctggcct gctccagtac ttgtgtcaat 480
gatctgggtg tcatccttgt ggcaggaaca ctgctgaatg cgccttttgc tgcattctta 540
tgnctactt ttacattgca ttggccatcc tgagaattga ttcccnagg ggtatgcaaa 600
gggcccttnt ccagctcnc nn 622

```

## SEQ ID NO: 123

```

gcgncgcagt gtgatggata tctgcagaat tgcgcccttc aatgtatttg tttctgttat 60
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gcttccccct gcactacacc gccatcatga gcccctgct ctgtctcgcc ctgggtggcg 180
tgtctgggt gctgaccacc ttccatgcca tgttacacac tttactcatg gccaggttgt 240
gtttttgtgc agacaatgtg atccccact ttttctgtga tatgtctgct ctgtgaagc 300
tggccttctc tgacactcga gttaatgaat gggatgatt tatcatggga gggctcattc 360
ttgtcatccc attcctactc atccttgggt cctatgcaag aattgtctcc tccatcctca 420
aggtcccttc ttctaagggt atctngcaag gccttctcta cttgcggctc cacctgcctg 480
tgggtgcact gttctatgga accgttattg gtctctactt atgctcatca gccataaagt 540
tttactctaa aaggacactt gtcattggnnt atgatgtacn ctgtgngnac ccccatgctn 600
aaccncntn 610

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## SEQ ID NO: 124

```

ccttgggccc tctagatgca tgctcgagcg gccgccagt tgatggatat ctgcagaatt 60
cgcccttctt tattcctgag tgaatatatg aggggttgg cactgctgtt aagagtggac 120
aggaaaatgg aaactagacg aacgtgacaa atccacgtgg atccagaaaa ataggaatca 180
ctgaatgcca aagggcaggc cacagaggag gaagaccagc actctgagca ggatggtcat 240
gtacagcctg gtcaagggca tcttccggga tccacaaagg atcctgacca gcagaaccgg 300
gctggacccg cagagaacca cacataaaaa aatcagccat gtgactgtga tgaaatctga 360
tgtttcacac caaacagaat caagcaccac tagacaggaa gccacagaac atccattcca 420
ggatgctctg cagcagggac agggcccaga gcaggacaca cgactgctna ccaggtnttt 480
tngngtggct gcnagctctn cttaggatng tccccaagga ttgncnngn ccggtncctt 540
gnttgcctnt cgnnncccta nctatgcctt ngctcctgtg nangcttgac nattggnctt 600
cnccacgng gcttaannnt ctcnngncgc atttanancg tnatnntact tcccttgtcg 660

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## SEQ ID NO: 125

```

gnccctctag atgcatgctc gagcggccgc cagtgtgatg gatattctgca gaattcgccc 60
ttcctatgta cttcttccctg ttatttggag acctggagag ctctctcctt gtggccatgg 120
cctatgaccg ctatgtggcc atctgttcc cctgaccta caccgcatc atgagcccca 180
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acactttact catggccagg ttgtgttttt gtgcagacaa tgtgatcccc cactttttct 300
gtgatatgtc tgctctgctg aagctggcct tctctgacac tcgagttaat gaatgggtga 360
tatttatcat gggagggctc attcttgtca tccattcct actcatcctt gggctcctatg 420
caagaattgt ctctccatc ctcaaggctc cttcttctaa gggatctctg aaggccttct 480
ctacttngng ctcccacctg tcttngngng cactgttcta tgggaaccgg tattggtctc 540
tacttaatgc tcatcaagct aatagtctta ctctaaagga cactgncatg gctatgatgt 600
acactgtggt gaccccnat getgacccat tc 632

```

SEQ ID NO: 126

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actacggagc	catcatgagt	agcctgctct	cagcgcagct	ggccctgggc	tcttggtgt	180
gtggtttcgt	ggccattgca	gtgcccacag	ccctcatcag	tggcctgtcc	ttctgtggcc	240
cccgtgccat	caaccacttc	ttctgtgaca	ttgcaccctg	gattgccctg	gcctgcacca	300
acacacaggc	agtagagctt	gtggcctttg	ngattgctgg	tgtggttatc	ctgagttcat	360
gcctcatcac	ctttgtctcc	tatgtggaca	tcatcagcac	catcccttcag	gatccccttt	420
gncagtggcc	ggagnaaaag	ncctttccac	gtgctcctcg	cntctcnncg	nggtgctcna	480
tttggttatgg	gtccacaagn	tnttctttca	cgncgggatt	ntccattcaa	aagatgncct	540
tgnnttttna	ncaaaagctt	ggncnncgnc	ctgaaanact	gnngtngact	tcangnttta	600
aaactccttt	natntcactn	ttanggggaac	naggggcggn	ac		642

SEQ ID NO: 127

ntngnccctc	tagatgcatg	ctcgagcggc	cgccagtggt	atggatatct	gcangaattc	60
gcccttccca	tgtatttatt	ccttagcctg	ttggattccc	agctgcacag	ctggattgtg	120
ttacacaact	caccttcttc	aagaatgtgg	aaanctataa	ttttttttct	gtgacccatc	180
tcaacttctc	aaccttgcc	gttctgacag	catcatcaat	aacatattat	gtattttaga	240
tatccctata	tttggttttc	ttccattnc	agggatcctt	ttgncttacc	atanaattgt	300
cctcctccat	tccaagaatt	ccattgncag	acgggacgna	tnangccttc	tctacctgt	360
cntctncccc	gnnagtcgnt	tntttatctn	tgnantnccc	tngggcgncn	nccctgncct	420
cagcnttngt	cancnttctc	cncacnnttt	cgctcgtgtt	ncccagtnct	gtntctnctn	480
tctcntncnc	tttctgcctc	ccctccanng	tctnnctttc	tcagcncctt	tnngncncnt	540
gccagcncn	nangntccnc	ccctctccct	cntgtctnct	cntcctnttt	cttctnttcc	600
tnnctcatnn	nnncgncnc	ncgctctccn	ccntntctn	tacgactccn	gncgtctctn	660
cgcctacgac	ctccctgtnc	ncnnccgg				688

SEQ ID NO: 128

gcgtgctgcn	agcggggcgg	cagagtgagc	ggatatctgc	agaatncgcc	cttccgatgn	60
atttctttct	aagcaactta	tctttcattg	acatctgcta	ctcttctgct	gtggctccca	120
atatgctcac	tgacttcttc	tgggagcaga	agaccatata	atttgtgggc	tgtgctgctc	180
agtttttttt	ctttgtcggc	atgggtctgt	ctgagtgcct	cctcctgact	gctatggcat	240
acgaccgata	tgcagccatc	tccagccccc	ttctctaccc	cactatcatg	accaggggcc	300
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ccagnnccat	atttaggctt	cacttttgcg	gacccaacat	catcaaccac	ttcttctgcy	420
acctccacca	gtcctggctc	tgtcttgctc	tgacaccttc	cttnagtcaa	gncgncgaat	480
tntcccgtgg	tgntcacntg	tcgngaggaa	acatcgnttt	cctccaaccc	cttantctcc	540
cangggntac	catagngtct	gcgngtcctt	gaagaatcct	tttngccaan	cgggcgaatn	600
gnaagccctn	ccaccgccc					619

SEQ ID NO: 129

gcggcgcagt	gtgatgntat	ctgacgaatt	cgcccttccg	atgtatttat	ttctaagcaa	60
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cttctgggag	cagaagacca	tatcatttgt	gggtgtgct	gtcagtttt	ttttctttgt	180
cggcatgggt	ctgtctgagt	gcctcctcct	gactgctatg	gcntacgacc	gatatgcngc	240
catctccagc	ccccctctcn	accccactat	catgacccag	ggcctctgta	cacgcatgga	300
ggtngcgccn	tatgntngtt	gnctnctnng	agctccctga	nccannnctn	ntcacntatt	360
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cncctganct	gcnntttctt	ccangccngc	ncgncancc	cgntctntct	gnngaancct	540
ttncatnct	gctcnatnct	nctctcatcn	nttctantn	ctctcennct	cncgctcnnt	600

nncttncnct ctnaacctnt cnnatectca cctnngatat cctcncgntc tttegnntc 660  
nttcnctgtc cganntcctc anacnntcc ctanncg 697

## SEQ ID NO: 130

ctctagatgc atgctcgagc ggccgccagt gtgatggata tctgcagaat tcgcccttcc 60  
tatgtattta ttccttagcc acttgccct cactgacatc tccttttcat ctgtcactgt 120  
ccctaagatg ctgatgaaca tgcagactca gcacctagcc gtcttttaca agggatgcat 180  
ttcacagaca tattttttca tattttttgc tgacttagac agtttcctta tcacttcaat 240  
ggcatataac aggtatgtgg ccatctgaca tcctctacat tatgccacca tcatgactca 300  
gagccagtgt gtcagtctgg tggctgggtc ctgggtcatc gcttgtgctg gtgctctttt 360  
gcgtaccctc ctcttgccc agctttcctt ctgtgctgac cacatcatcc ctactactt 420  
ctgtgacctt ggtgccctgc tcaagtggc ctgctcagac acctccctca atnagtttag 480  
aatctttaca ggagcattga cnggcattat gcttccattc ctgngcatcc tgggttctta 540  
tgggcanatn tgggggtcac cattctncag anttccttta ccagggcatn tgcaangcct 600  
tggccacttg tggnnccnc tcneg 625

## SEQ ID NO: 131

ttggcctcta gatgcatgct cgagcgccgc cagtgtgatg gatatctgca gaattcgccc 60  
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tcgggttgcg gaaggaataa atacatcggt ttgcggaagg aataaatata tcgggttgcg 180  
gaaggaataa atcatcggt tgcggaagga ataaatcat cggttgcg aggaataaat cattgggttg 240  
tacctcggt tgcgtaagga ataaatcatt gggttgcgta aggaataaat cattgggttg 300  
cgtaaggaat aaatcattgg gttgcgtaag gaataaatca ttgngttgcg taaggaataa 360  
atctttgtgc tggtaaccgat ctatcatggg gttacgaaag ggaagaaata cattggaang 420  
ggcgaattcc agcacactgc cgnccgctac tagtgggatc cganctcggt accaagcttt 480  
gatgcntagc ttgagtattt taacgccgcc aacctaaaat ngcnttggcc ttacnnttg 540  
gaccnagctt gncttccctg cgtnaanttt cnttattcct cctntntntc ttctcccccc 600  
ncanaatnnt nccccngntn anacnncann ttntatannc ctngngctcc cctantc 657

## SEQ ID NO: 132

tggcccncta gatgcatgct cgagcgncgc cagngtgang gatatctgca gaattcgccc 60  
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tcacacctaa gctcttggtc aacttcctgg tctctgacaa gtccatctct tttgagggt 180  
gtgtggtcca gctcgcttc tttgtagtgc atgtgacagc tgagagcttc ctgctggcct 240  
ccatggccta tgaccgcttc ctatccatct gtcaaccct ccattatggt tctatcatga 300  
ccagggggac ctgtctccag ctggtagctg tgtcctatgc atttggtgga gccaaactccg 360  
ctatccagac tggaaatgtc tttgcctgc ctttctgtgg gcccaaccag ctaacacact 420  
actactgtga cataccaccc ctctccacc tggcttgtgc caacacagcc acagcaagag 480  
ngnccctcna tgncttttct gntctggcac ccttctggen gctgcaggca ttctcacctc 540  
taccggcttg ggcttggggg ccaatnggga ggatgcgcct caagaacagg gagggagaaa 600  
ggactcccca cttntgctc ccnn 624

## SEQ ID NO: 133

ggagttgata tgaacgggtt aagtgaagga gtgcccactg catagaagag accaaagaac 60  
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cagaagaggg tgaccacagt gagatgggag gagcaggctc naaaggcctt tctccatgct 180  
gtggnagagn taattctcag cactgcctgg gcagtcggct ncataagagg caaggatgag 240  
gctgagaggc acaaccacga agatgacact ggacacangc caactgtatc cattgttaga 300  
ggnatctcca caggagagtn gaatcagaga tgggacnttc acattaanaa gttatttatn 360  
tgctggcggg nacagatgcc caagcgannan ggngntatgg tncctggncna ttnttctgctc 420  
canaccatt atctcangcc acatgtatnt cagctttttn ntncnntnt nagtntagtc 480  
tngntgntnt ncnntattnn ccnntctttn tccntcann tatcattntc attccttnen 540  
ncncanantt atggnnccnc cgnacnct cngtnactcc cctnnngnec 590

## SEQ ID NO: 134

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gnntnnnnnn ntgttancct cgteccctcta gatgcatgct cgagcggccg ccagtgtgat 60
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tgatctctct tgttttccc cacacactgc aacctctgcc tccacattca agtgattctc 180
ctgctcagc ctcttgagta gctggaatta cagatgtgag ccaccatgcc tggcctgtcc 240
agatgttttt gaaacaaccc ccaccagcac tggagggagt caaggggaaga caagccaggc 300
atctgagctc ctctgtctct gcccttccct ctcactgtcc ccagggtaac ccgtcaccac 360
ccccatcacg aacccttca tctacacatt acgtaacaag ggcgaattcc agcacactgg 420
cggccgttac tagtgatcc gagctcggta ccaagcttga tgcatagctt gagtattcta 480
acgntcacc taaatagctt ggcgtnatca tngnccnag cttgntttct gtgtgaaatt 540
tgntatccgc tcacaaattc cacacaacat acgagccnga agcaataagn nntaaagcct 600
ngngtgccna angagnagac taactcacia ttaattncgt tggctnactt gcccc 655

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## SEQ ID NO: 135

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cagcagtgcc caaagcaccg gccatcctac tggggagaag tcagaccata tcatttaca 180
gctgtctttt gcagatgtac tttgttttct cattaggctg cacagagtac ttcctcctgg 240
cagccatggc ttatgaccgc tgtcttgcca tctgctatcc ttacactac ggagccatca 300
tgagtgcct gctctcagcg cagctggccc tgggtcctg ggtggtgtgg tttcgtggcc 360
attgcagtgc ccacagccct catcagtggc ctgtccttct gtggttcccg tgccatcaaa 420
cacttcttct gtgacattgc accctggant gccctggcct gcaccaacac cacaggcagn 480
aagagcttgt ggcctttgng aatgcctgn tggggtanc cttngtcat gccctnatca 540
ccntttntcn nctatgnngt acantcatta agnccaatc nctcatggga tccccctttg 600
cnagtggccc ggcgngcnaa ngncctnct cccgtncn 639

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## SEQ ID NO: 136

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tccatcccca aaatgctggc caacattcat acccagagtc agatcatctc gtattctggg 180
tgtctngcac agctatattt cctccttatg tttggnggcc ntgacaactg cctgctggct 240
gtgatgccat angaccgta tgtggccatt tgccaaccac cccattacag cacatctatg 300
agtccccagc tctgtgcact antgctgenc gtgtgctgng tgnanccan ttgtctgct 360
gctgcacatn ctgttncnc cccnccngg nctctttnnn ccgnaccnc cctacaantc 420
cntatcannt tengetnccc tttcttctcc ccccnnttct tncnccctc ctcnnncccta 480
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tctctcnct cccnctcacc ngntngtcta gtctgcccgc gcccctcgc tatcnctncc 600
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## SEQ ID NO: 137

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ctctagatgc atgtcagac ggcgcagcgt gtgatggata tctgcagaat tcgcccttcc 60
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gccc aaagca ctggccatcc cactggggag aagtcagacc atatcattta caagctgtct 180
tttgagatg tactttgttt tctcattagg ctgcacagag tacttccctc tggcagccat 240
ggcttatgac cgctgtcttg ccatctgcta tccctttacac tacggagcca tcatgagtag 300
cctgctctca ggcagctgg ccctgggctc ctggncgtgn ggcttngtgn cnttgngcn 360
ctcctagenc tcatgnnnnc ctgcttnt gggncctgn nnatcaccct ntntctctgt 420
nacacttgta cctcncgnet tgcctnnnc tgccttctaan tccctnngtt gtantnctn 480
gccttntctc ccttcgctn gttnatcttn anntnctgnc nctntgncc ctctccttcg 540
ttngaccct ntannencnc tcttctcnn anntccctc tatcncccg ntncctcnn 600
ntgtcnccg antangntac ntntcacnnt ntntcnctn ctctcctaac tcttncg 658

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## SEQ ID NO: 138

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ggccccctag atgcatgctc gagcggggcgc cagcgtgatg gatattctgca gaattcgccc 60
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cagtgcctaa agcactggcc atcctactgg ggagaagtca gaccatatca tttacaagct 180
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gtagcctgct ctcagcgcag ctggccctgg gctcctgggt gngtggnntc gtggccantg 360
tagtgcctac agccentatc agnggcctgt ccttttggtg ncncccgtn cacaaccccc 420
ttctttctgt gacatttgcc cccctgcntt ncccttgccc ctncaccaan cacngcangg 480
nngnttncnn gnetcggcnc cccctttgac ntantncntt gntgngcgt tatncntgcg 540
tttaatgncc ttaatnaaac tctcncctct catgttnttc nttntntng gnaccaantc 600
ttcnaannna cccctttttc catnnnncng tctacntcnc tctcnccttc ntcngntttn 660
nngtcenncc

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## SEQ ID NO: 139

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gatgcatgct cgagcggcgc ccagtgtgat ggatatctgc agaattcgcc ctcccgatgt 60
atTTTTTTTct aagcaacctc tccttcctgg agatttggtat taccacagca gcagtgcctaa 120
aagcactggc catcctactg gggagaagtca agaccataac atttacaagc tgtcttttgc 180
agatgtactt tgttttctca ttaggctgca cagagtactt cctcttgcca gccatggctt 240
atgaccgctg cttgccatct gctatccttt acactacgga gccatcatga gtagcctgct 300
ctnagcgcag ctgnccctggg ctcttggttg ngtggttcng ngccattcag cgcacacagn 360
cttcacatgct ggncttgtn cttctgngccc ccgncatcn aaccantttc ttctgngana 420
atngtacccc tgnanttgc cttggccttg anccancaca tangctcgta tngncttctn 480
ntggcncncn tgnitcgct ngtnnccng ntancngnc tnnacgtcct ttcnacact 540
ttnnctctat gttntcaacn tcncngncta ttcgctcang atanccactc ttncannent 600
cggannnta nctttccnn acctctttc cntnc

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## SEQ ID NO: 140

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atgaccctct agatgcctgc tcgagcggcc gccagtgtga tggatatctg cagaattcgc 60
cttcctctat tatttatttc taagcaacct ctcttcctg gagatttggt tataccacag 120
cagcagtgcc caaagcactg ggccatccta ctggggagaa gtcagaccat atcatttaca 180
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gcagccatgg cttatgaccg ctgtcttgcc atctgctatc ctttactacta cggagccatc 300
atgagtagcc tgctctcagc gcaagctggc ctgggctcct ggggtgtgtg tttcgngggc 360
cattgcagng cccacagenc tnatcagtgg gctgtccttt ctgtgggccc ccnggccat 420
tcaacccaen tttctttttg nggatattgg caaccccntg gnatttgncc cctnggccct 480
ngcacncaaa ccancaccag ggtcngnnna caanccttgn cgggcccctt ttntgaaatt 540
ggcctnggtg ngggnntaat tcncctttggn tttnaatgcc cttccaatna accttttgn 600
cnttctatg gngnnccct tnnattcnag caccacanc ttangggaa cnccttttt 660
gtcaagtng nccggtann naaaagccnt ntccnnntg cccccccg 709

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## SEQ ID NO: 141

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ntgggccctg agatgcangc tcgagcggcc gccagtgtga tggatatctg cagaattcgc 60
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agcagtgcct aaagcactgg ccactcact gggagaagt cagaccatat catttacaag 180
ctgtcttttg cagatgtact ttgttttctc attaggctgc acagagtact tcctcctggc 240
agccatggct tatgatcgt gtcttgccat ctgctatcct ttactactac gagccatcat 300
gagtgcctg ctctcagcgc agctggccct gggctcctgg gtctgtggtt tcgtggccat 360
tgaagtgncc acanngccct atcagntggc cntgtccttc tgcnncccc cgtnncattn 420
nncacttctt tcgtgacatt gccannctnn tnttgccctn gtccttnncc natcatccat 480

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ggcngttngn gctgttggcc ctttcgctca cncngtctgc gccattctc nctgtnncaa 540
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cctcgatctc ctttcangnc tccgctncac tgctcncna acgtccnttt cttccctnnt 660
nntcnnntnc g 671

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## SEQ ID NO: 142

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gggcnncttt gggatgcct tgncccttag atgcatgctc gagcggccgc cagtgtgatg 60
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tgectgtttc acttctgcct ccattcccaa aatgctggcc aacattcata cccagagtca 180
gatcatctcg tattctgggt gtcttgacac gctatatttc ctcttatgt tnggnggcct 240
tgacaactgc ctgctggctg tgatggcata tgaccgctat gtggccatct gccaacact 300
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cttcccnnt cttcctnntg tactcncntn nctgttnnn cccctctnt ctcttcttcc 540
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ttcnaaatcg ctncatctnc cgcctatagt ncaattcnn tncctnctnn attnctacn 660
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gnccnatttc nttttcccn 739

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## SEQ ID NO: 143

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agtagaacta ttagctgatg agcataagta gagaccaata acggttccat agaacagtga 180
caccacagac aggtgggagc cacaagtaga gaaggccttg cagataccct tagaagaagg 240
gaccttgagg atggaggaga caattcttgc ataggaccca aggatgagta ggaattgggt 300
gacaagaatg agccctccca tgataaatat caccattca ttaactcgag tgtcagagaa 360
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aaaacacaac ctggccatga gtaaagtgtg taacatggca tggaagggtg tcagaccca 480
ggacagcgcc accaggncca gacagagcat ggggtcatg atggcgngt agtgcnggn 540
gangcagatg nccacantag tgntnatagn ccatggtcac angggaggna gctttcagg 600
ctttnaataa c 611

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## SEQ ID NO: 144

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gagtacatga aggggttaag tgaaggagtg cccactgcat agaagagacc aaagaacttg 120
cccctccctt gggcatacgg atttttgggc tggaggtaga cagcaatgac tgagctgtag 180
aagagggtga ccacagttag atgggaggag caggccccaa aggcctttct ccatgctgtg 240
gnagagttaa tcctcagcac tgnctgggca gtggctccat aagaggcang gatgaggctg 300
agaggcaca ccacngaaga tgacactgta cacagccaac tgtattttat tgnaggnggn 360
atctccacag gngagnccaa tcagntgatg gntcccnccc atttcanaag tcactntatn 420
tnctnttgnc ngncacgang gtccnnnnng agcngttctt gtccnntctt nactatcngt 480
tacntccct cntccctcnt nttttcttct cncctnctc ttcttttnc cntntccnt 540
gtncnctnt atcttcccta ntncntcttt tntnctntt tngnnncctt cctctntctt 600
tnctccctc tcnancntat cncttgnncc cncnnntnc c 641

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## SEQ ID NO: 145

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tgatatctg cagaattcgc ccttccgatg tatttgtttc taagcaacct ctcttctctg 120
gagatttgg ataccacagc agcagtgcc aaagcactgg ccattctact ggggagaagt 180
cagaccatat catttacaag ctgtcttttg cagatgtact ttgttttctc attaggctgc 240
acagagtact tctcctggc agccatggct tatgaccgct gtcttgccat cctgctatcc 300
tttacactac ggagccatca tgagtagcnn tgctctcagc tgcagctggn cctgggctcc 360
tggntgngct ggtttctcgc cctattnttn ncnnnacnnn cntantcng ncnctnctc 420

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ctttcttntt tccctttnc tcaactcatnc ctncctctct tttntgtcc tcttnataac 480
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ccctttgntc tctacnctct tncgnantnc ctnnnatntc tnttcacng cncctcnnn 600
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ctnancantc tntcactctt tcccanncn tcnctgtct ctgactctcn cctctntnt 720
nntncctcac cnnntacatg gtctcttntn ntccatctcg tcnntctctc cnnatacgn 780
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## SEQ ID NO: 146

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caatctgccg accactccgc tatgagacct tgatgaatgg ccatgtctgt tcccaactag 180
tgetggcctc ctggctagct ggattctctt gggctcttg cccactgtc ctcatggcca 240
gcctgccttt ctgtggcccc aatggattg accacttctt tctgacagt tggcccttgc 300
tcaggcttct ttgtggggac acccacctgc tgaaactggg ggcttctatg ctctctacgt 360
tgggtgtaet gggcccacng gctctgacct cagntttcta ngcccgcatt cttgccactg 420
ttctnagngc ccncnanngc ttgccngagc gaagcanaag atnnttttca cattgcgcac 480
tcggaantta aagggggtgg cgcnnannc nctgggngc ttcattctnt ctttttactt 540
tnccannngn tntngctca ntccctntnc tcntcncaat cntnnngcn ctctgtntnn 600
gtanactgcc nttaattnga ccncttctcc nacnncac 639

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## SEQ ID NO: 147

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catagatgca tgctcgagcg gccgcagtgt gatggatata tgcagaattc gcccttccga 60
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tacctggcaa tctgcgacc actccgctat gagacctga tgaatggcca tgtctgttcc 180
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cccttgctca ggctttcttg tggggacacc cactgctga aactggnggc tttcatgctc 360
tctacgttgg tggtactggg ctactggct ctgacctcag ntctntangc ctgcattctt 420
gtcactgtct caggncctct nnagntgctg ngcgaaggaa agcgcntttc acttgcgcct 480
cnatcttaca ggggtggcat catctnangg gngnntgca tctttnncta nntnncagg 540
tcccagctat antccaaagt nctnaaaaca ngancctcgg nangannnct nntattctac 600
ccttcttctg aacctncc 618

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## SEQ ID NO: 148

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cntagatgca ngctcgagcg ggcgccagcg tgnngnanat ctgcagaatt cgcccttcca 60
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cccagctgct tttcaatcta ggcagcccag gcaagactat cagccacacg ggctgtgcca 180
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gcattnngtc nccttnatnn catennattt gcctngngt cctcgttcc cantntncan 540
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cttctanctc tncatcttct ttncttcca tcc 633

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## SEQ ID NO: 149

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gatgcatgct cgagcgcccg ccagtgtgat ggatatctgc agaattcgcc cttgttctta 60
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ttctgctgct cctcaggatg gcgggactta ggggccatgt acatgacgat ggcgctgcca 180
aagaagagtc ccactacgca gaggtgggag gagcaggtgg agaaggcctt tctgcggccc 240
tccccagact ggatcctcag gatggccgcc aggatgtgtg agtaggagac cagcaccagg 300

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cagagtgggc	ccaccaggat	gaacatgcag	gctgcaaaga	tgaccacctg	gttgagccag	360
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acgaggccca	canaaagggc	agtcttagga	tgaggntcac	atggaccata	gccaggaggg	480
agccacattg	tcccaggaag	ngntgnccag	agtgatgcag	acttttcagg	tcttgatgat	540
ngnnttattc	ggagagnntg	nnagacnggt	cancgttccc	gntcgttaga	caattancac	600
ccancngngg	ccttcantna	tgtc				624

## SEQ ID NO: 150

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atattattct	ctctgacctc	tccttcttgg	acctctgctt	taccacaagt	tgtgtccccc	120
agatgctggg	caacctctgg	ggcccaaaga	agaccatcag	cttcctggga	tgctctgtcc	180
agctcttcat	cttcctgtcc	ctggggacca	ctgagtgcac	cctcctgaca	gtgatggcct	240
ttgaccgata	cgtggctgtc	tgccagcccc	tccactatgc	caccatcatc	cacccccgcc	300
tgtgctggca	gctggcatct	gtggcctggg	ttatgagtct	ggttcaatcg	atagtccaga	360
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aggteccatc	tctgattcga	ctctcctgng	gagatacctc	ctacaatgaa	atccagttgn	480
ctgtgtccag	tgtcatcttt	ggtgngtgtg	cctctcagcc	tcatecttgc	ctcttatgga	540
gccactgccc	aggcnggggc	tgaggattaa	ctttgcnna	gccatggaag	aaaggtcttt	600
nggacctngn	n					611

## SEQ ID NO: 151

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gcacactggc	ggccgttact	agtggatccg	agctcggtag	caagcttgat	gcatagcttg	180
agtattctaa	cgcgtcacct	aaatagcttg	gcgtaatcat	ggtcatagct	gtttcctgtg	240
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gcctgggggtg	cctaataagt	gagctaaact	acattaattg	cgttgccgtc	actgtccgct	360
ttccagtcgg	gaaacctgtc	gtgccagctg	cattaatgaa	tcggccaacg	cgcgngnaga	420
ggccggnttg	cgtattgggc	gctcttccgc	ttctcgtca	ctgaactcgt	gcgctcggga	480
cgtccggctg	cggcgagcgg	tatcagctta	ctcaanggcc	gtantacggg	tattcncagg	540
aatnnggggt	taacgccngg	naaagaacat	tgtgngccan	angncaagcn	taatgccag	600
gaaccgntan	aacgntccc					619

## SEQ ID NO: 152

ctcgagcggc	gcagtgtgat	ggatatctgc	agaattcgcc	cttcctatgt	attattttctc	60
cataatttat	ctattgccga	tatctgcttc	tcttccatca	cagcgcccaa	ggttctggcg	120
gaccttctgt	ctgaaagana	gaccatctcc	ttcaatcatt	gctccactca	gatgtttcta	180
ttccacctta	ttggaggggc	ggntgtatnt	nnncntggt	ncccnatgcg	cctncttttc	240
ccntntcntt	tenantcttt	ncgcctcctc	tcatgcnnnc	ccttcentct	tattentgtc	300
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ccctcaactnc	tcttntcntg	ctcttctntn	cncggtgtct	tancttcttg	ccctgntacg	480
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## SEQUENCE LISTING

<110> DigiScents; Yeda Research  
Bellenson, Joel; Smith, Dexter; Lancet, Doron; Glusman, Gustavo;  
Fuchs, Tania; Yanai, Itai

<120> OLFACTORY RECEPTOR SEQUENCES

<130> 422852000200

<140> 06/158,615

<141> 1999-10-08

<160> 2747

<170> FastSEQ for Windows Version 4.0

<210> 1

<211> 613

<212> DNA

<213> Homo Sapien

<220>

<221> variation

<222> 3, 8, 11, 17, 28-29, 34, 40, 48, 67, 71, 613

<223> N can be any nucleotide

<400> 1

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aaatgancgg	nttaaggaga	ggagtgaaga	cagtaaaaaa	acacagagat	aaatttatca	120
attgggaagc	tttcaaaggg	ccaaataag	atgaatatta	atgggccaaa	gaagagaagc	180
acaacagtaa	tgtgggcaga	cagagtggga	agggccttgg	acatcccatc	agaggcttgg	240
cgatgcacag	tagcaaggat	gatatgttca	gaaatgagca	aaaggaggaa	acacataagt	300
gagagcagac	cactgttagt	gagcaccagt	atctcaaaac	cataggtgtc	taagcaggca	360
agcttgatca	ctaggaggag	gtcacagaaa	aaattgtcta	ccctgttggg	tccacagaaa	420
ggcagattga	ctttgaatgc	caggtgggtg	gctgagtgtg	agatgccaat	ggcccaggaa	480
acccccacca	gaacagttca	caccctccgg	ttcatgatgg	ttatgtagtg	cagaggtttg	540
catatagcaa	tgtatctatc	ataggccatg	gcaacaagaa	gcaccatctc	actaccccca	600
aaaacatgca	agn					613

<210> 2

<211> 578

<212> DNA

<213> Homo Sapien

<220>

<221> variation

<222> 3, 4, 6, 8

<223> N can be any nucleotide

<400> 2

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cttgtctgaa	agcttgggtg	aaccacagtcg	catatagtta	aagataacctg	aaccatagaa	180
tatggcaacc	acagtgaagt	gggagccaca	tgtggagaag	gctttcttcc	tgccctctac	240
agagcgaatt	cgcaggactg	cagctgccac	gtggatatag	gagatgacaa	tgagagccat	300
gggggtacct	gccattataa	aaccacagc	aaaaagcagc	agctcattga	gttgggtgct	360
ggagcaggag	agctggaaga	gctgtgggag	gtcacagtag	aagtgattga	tcacattggg	420
gccacagaag	ttgagcgtgg	acatggccac	agtgtgggtc	agtgcgttgg	tgaaagcaca	480
agcccaggac	gcagccacca	acatcctctg	gactgtctga	ctcatgcggg	tgctttagg	540
tgaggggccc	ggcagatggg	caggaatcgg	tcataggg			578

<210> 3  
 <211> 588  
 <212> DNA  
 <213> Homo Sapien

<220>  
 <221> variation  
 <222> 4, 5, 13, 16, 27, 576, 578, 588  
 <223> N can be any nucleotide

<400> 3  
 tgggnntttta tcnccnttgg agctccnaag cagtggtaac aacgcagagt acgcccgttg 60  
 cgaagcgtgt agattagggg gtccagtagg ggagtgatga cagtgtagggt caccgagatc 120  
 agctgggtcat gttctctggt gttctctgac ttgggcttga ggtaggcaat ggaggcacag 180  
 ctgtagtggg caatgaccac agtgagggtg gatgcacagg tggcaaaagc cttcttccgg 240  
 ccctcaactg aagtaatctt gaggattgta gagataatga gaacataaga aatgaaaacc 300  
 agacccatag gtacaacaag caccagcaca ctgataatca aagtcaggat ttcattgaca 360  
 gtgggtgtcaa tgcaggagag cttcatcaca gggcggatgt cacagaagaa gtggggcacc 420  
 ttttctagca cagaagggtg acctgaatac agatgtcact tgcgttattg ctacaatcag 480  
 cccaatgctg caaggccccc aggacaagtt ggatacgag cctcttggtc ataataacca 540  
 tgtatctcaa ggggggttgca agatggccac atagcngntc atattccn 588

<210> 4  
 <211> 583  
 <212> DNA  
 <213> Homo Sapien

<220>  
 <221> variation  
 <222> 3, 7, 13, 437, 485, 488, 506, 521, 524, 545, 558  
 <223> N can be any nucleotide

<400> 4  
 gtngtnttta acnccattgg agctccaaag cagtggtaac aacgcagagt acgcccccaa 60  
 tgtatTTTTT tttgagaaac ttgtctttct tagatTTTTT ttacatctct gtcacaattc 120  
 caaaatctat tgtagttcc ttgactcatg atacttccat ttctttcttt ggggtgtgctc 180  
 tgcaagcctt ctttttcatg gacttggtgcaa ctacggaggt agccatcctt acagtgatgt 240  
 cctgtgaccg ctatatggcc atctgccggc ctttacatta tgagggtcatc ataaaccaag 300  
 gtgtctgtct gaggatgatg gccatgtcgt ggctcagtg ggtgatctgt ggattcatgc 360  
 atgtgatagc aacattctca ttaccattct gtgggcgcaa tagaatacgt caatttttct 420  
 gtaatatccc acaactncta agcctcttag accccaaagt aattaccatt gagattggag 480  
 tcatnggntt ttggtacaag tcttgngata atcctctttg ntgnaattac tctctcctac 540  
 atgtncattt ttttttgnca tcatgaggga ttccttctaa agg 583

<210> 5  
 <211> 584  
 <212> DNA  
 <213> Homo Sapien

<220>  
 <221> variation  
 <222> 2, 5, 8-9, 11, 14, 17, 550, 557-559, 561, 576, 582  
 <223> N can be any nucleotide

<400> 5  
 gnggnttntt nccnccnttg gactccaaag cagtggtaac aacgcagagt acgcccgtgt 60  
 gtaaatgaat ggggttcaaca tgggagtcac aacagtgtag gacaatgata gcagcttcgt 120  
 gccctcaggt gaattatttg atttaggccg gaagtaggtg aggcctaatg atatatagaa 180  
 aagagagaca acaaggaggt gtgaggaaca tgtagaaaag gctttattct tccctttagc 240  
 tgatgggatc ttgaggatgg cagcagcaat gcgagtatag gaacacaaga tcagcaagca 300

ggggatcatg	accaccagaa	tgggtccgac	gatggcgtag	atctcaaaca	gtgctgtgtc	360
tgcacagacc	agcctcagca	caggtgggct	gtcacagaag	aagtgggtca	ccttggtggt	420
gccacagaat	ggaaaactga	agagccatgt	ggtctgcaca	gtagctacag	gaaagcctgg	480
gaaccaggag	gcagcagcca	gtttggcacg	agtcctttgg	ttcatgatga	ctgggtagtg	540
caagggactn	gcagatnnnc	ncattcggtc	atatgncatg	gnag		584

&lt;210&gt; 6

&lt;211&gt; 572

&lt;212&gt; DNA

&lt;213&gt; Homo Sapien

&lt;220&gt;

&lt;221&gt; variation

&lt;222&gt; 2

&lt;223&gt; N can be any nucleotide

&lt;400&gt; 6

cnttggagct	ccaaagcagt	ggtaacaacg	cagagtacgc	ccgctccgca	gagaatagat	60
gaaaggggtc	aggggtcggg	gcacgactgt	gtagaacgca	gacaggaaaa	catccagaac	120
ggggggagaa	tttgaaattg	gcttcacata	ggcaatgctg	ccagatatca	taaagagtgt	180
tacaaccaca	agatgtggaa	tgcaggtaga	aaatgttttt	gatctaccct	ccttagaagg	240
aatcctcatg	atgacagaaa	aaatgtacat	gtaggagaga	gtaattacaa	caaaggagat	300
tatcacaaaga	cttgtagcaa	aaaccatgac	tccaatctca	atggtaatta	ctttggggtc	360
taagaggctt	aggagtttgt	ggaatattac	agaaaaattg	acgtattcta	ttgcgcccac	420
agaatggtaa	tgagaatgtt	gctatcacat	gcatgaatcc	acagatcacc	ccactgagcc	480
acgacatggc	catcatcctc	agacagacac	cttggtttat	gatgacctca	taatgtaaag	540
gccggcgagga	tggccatata	gcggtcatag	ga			572

&lt;210&gt; 7

&lt;211&gt; 549

&lt;212&gt; DNA

&lt;213&gt; Homo Sapien

&lt;400&gt; 7

gcagtggtaa	caacgcagag	taccgcccc	tatgtacttt	ttcttgggaa	acttgtctgt	60
gtttgacatg	ggtttctcct	cagtgcactg	tcccaaaatg	ctgctctacc	ttatggggct	120
gggcccagctc	atctcctaca	aagactgtgt	ctgccagctt	ttcttcttcc	atttctctcg	180
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ggctgctttc	tgctaaatct	tttatcctac	actagaatca	caaatatcta	tcttaagcat	540
tcgtacaac						549

&lt;210&gt; 8

&lt;211&gt; 548

&lt;212&gt; DNA

&lt;213&gt; Homo Sapien

&lt;220&gt;

&lt;221&gt; variation

&lt;222&gt; 537, 542

&lt;223&gt; N can be any nucleotide

&lt;400&gt; 8

ggaacaacgc	agagtcgccc	ccgatgtact	tgtttctctc	caacctgtcc	tttgctgaca	60
tttggtttac	ttccaccacc	attccaaaaa	tgctgatgaa	catccagaca	cagaacaaag	120
tcatcaccta	catagcctgc	ctcatgcaga	tgtatttttt	catactcttt	gctggatttg	180
aaaacttctc	cctgtccgtg	atggcctatg	accggtttgt	ggccatctgt	cacccctgc	240
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tgagtgtctt	gtattccttg	ctacaaatct	taatggtagt	acgactgtcc	ttctgcacag	360
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tgactgggat	cctttacttc	ttactctaag	ataatttctt	catacatgca	atctcancaa	540
gntcaggg						588

<210> 9  
 <211> 583  
 <212> DNA  
 <213> Homo Sapien

<220>  
 <221> variation  
 <222> 8, 13, 14, 16, 25, 232, 271, 305, 438, 488, 497, 500, 505, 512, 524, 544, 558, 578  
 <223> N can be any nucleotide

<400> 9						
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ttgggttgat	cccttgagat	ggaggagggg	ggctgaaggt	acatgctgat	ggctggggcca	180
taaaataaga	aaactacaat	aagatgggag	gagcatgtcc	caaaggcctt	tntccttccc	240
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ggtntagtga	agaggttntc	agaatggcca	cataccgntc	aaa		583

<210> 10  
 <211> 569  
 <212> DNA  
 <213> Homo Sapien

<220>  
 <221> variation  
 <222> 7, 28, 174, 232, 237, 314, 341, 445, 447, 449, 470, 494, 497, 503, 510, 515, 527, 553, 554, 569  
 <223> N can be any nucleotide

<400> 10						
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tctgtctctc	ctggatgtct	gcttcataac	cactaccatc	ccacagatgt	tgatccacct	120
cgtgggtcagg	gaccacattg	tctcctttgt	atgtttgcag	acccagatgt	actntgtctt	180
ctgtgttggt	gtggccgaga	gcatactctt	ggctttcatg	gcctatgacc	gntatgntgc	240
tatctgctac	ccacttaact	atgtcccgat	cataagccat	aaggctctgt	tcaggcttgt	300
gggaactgcc	tggntctttg	ggctgatcaa	tggcatcttt	ntcgggtata	tttcattcct	360
agagcccttc	cgcagagaca	accacataga	aagcttcttc	tgcgaggccc	ccatagtgat	420
ttggcctctt	ttgtggggga	ccctnanant	agtctgtggg	caaatctttt	gccgatgcca	480
tcgtggtaat	tctnagnccc	atnggtgctn	actgntactt	acctatntgc	acattcctgt	540
ccaccatcct	agnnaaagtc	ctccttctn				569

<210> 11  
 <211> 582  
 <212> DNA  
 <213> Homo Sapien

<220>  
 <221> variation  
 <222> 3-4, 12, 14, 504, 513, 522  
 <223> N can be any nucleotide

<400> 11  
 ggnntttttac cncnatttga gctccaaagc agtggttaaca acgcagagta cgccccctat 60  
 gtacttggtc ttgagaaact tgtctttctt agatttttgt tacatctctg tcacaattcc 120  
 aaaatctatt gttagttcct tgactcatga tacttccatt tctttctttg ggtgtgctct 180  
 gcaagccttc tttttcatgg acttggcaac tacggaggta gccatcctta cagtgatgtc 240  
 ctatgaccgc tatatggcca tctgccggcc ttacattat gaggtcatca taagccaagg 300  
 tgtctgtctg aggatgatgg ccatgtcgtg gctcagtggt gtgatctgtg gattcatgca 360  
 tgtgatagca acatttctcat taccattctg tgggcgcaat agaatacgtc aatttttctg 420  
 taatattcca cagctcctaa gcctcttaga ccccaaagta attaccattg agattggagt 480  
 catggttttt ggtacaaggc ttgngataat ctnttttggg gnaattactc tctcctacat 540  
 gtacattttt tctgcatcat gaggattcct tctaaggagg gg 582

<210> 12  
 <211> 579  
 <212> DNA  
 <213> Homo Sapien

<220>  
 <221> variation  
 <222> 3, 384, 528, 572, 578  
 <223> N can be any nucleotide

<400> 12  
 ggnntttgacc acggagctcc aagcagtggt aacaacgcag agtacgccct cttgtcctcg 60  
 tgccgataca tgatgggggt caacatggga gtcataacag tgtaggacaa tgatagcagc 120  
 ttcttgccct cagggtgaatt atttgattta ggccggaagt aggtgaggct taatgatata 180  
 tagaaaagag agacaacaag gaggtgtgag gaacatgtag aaaaggcttt attcttccct 240  
 ttagctgatg ggtccttgag gatggcagca gcaatgtgag tataggaaca caagatcagc 300  
 aagcagggga tcatgaccac cagaatgggt cgcacgatgg cgtagatctc aaagagtgtc 360  
 gtgtctgcac agaccagcct cagnacaggt gggctgtcac agaagaagtg gttcaccttg 420  
 ttgggtgccac agaattgaaa actgaagagc catgtggtct gcacagtagc tacaggaaag 480  
 cctgggaacc agggagtagc agccagtttg cagcagtcctc tttggttnat gaatgactgg 540  
 ggtagtgcaa gggactgcag atggccacat ancggctent 579

<210> 13  
 <211> 577  
 <212> DNA  
 <213> Homo Sapien

<220>  
 <221> variation  
 <222> 2-4, 7-10  
 <223> N can be any nucleotide

<400> 13  
 gnnnttnnnn ccaactggagc tccaaagcag tggttaacaac gcagagtacg cccccaatgt 60  
 atttattctt gtcacacctc ccttagttga tatctgtttt accaccagta ttgtcccca 120  
 gctgctgtgg aacctaataa gacctgacaa aacaatcaca ttcttggtgt gtgtcatcca 180  
 gctctacatc tccctggcat tgggtctccac tgagtgtgtc ctcttggtgt taatggcttt 240  
 tgatcgctat gctgcagttt gcaaacctct ccaactatacc gccgtaatga accctcagct 300  
 gtgccaggct ctggcagggg ttgcgtggct gagtggagtg ggaaacactc ttatccaggg 360  
 cactgtcacc ctctggcttc ctgcgtgtgg acaccgattg cactaacatt tcttcgtgag 420  
 gtaccctcca tgattaagct tgcattgtgt gacatccatg ataattgaggt tcagctcttt 480  
 gttgcttcac tgggtcttgc cctcttgccc ttagtgctaa tactgctgcc tatggacata 540  
 tagccaaggt ggcataagga tcaagtcagt ccagcct 577

<210> 14  
 <211> 577  
 <212> DNA  
 <213> Homo Sapien

&lt;220&gt;

&lt;221&gt; variation

&lt;222&gt; 3-4, 6, 8, 252, 375, 474, 506, 515, 532, 541, 545-546, 556, 562, 573

&lt;223&gt; N can be any nucleotide

&lt;400&gt; 14

ggnnntntnac	tccatggact	ccaagcagtg	gtaacaacgc	agagtacgcc	catacatgat	60
gggggttcagt	aggggagtg	tgacagtgt	ggtcaccgag	atcagctggt	catgttctct	120
ggtgttctct	gacttgggt	tgaggtaggc	aatggaggca	cagctgtagt	ggacaatgac	180
cacagtggag	tgggatgcac	aggtggcaaa	agccttcttc	cggccctcaa	ctgaagcaat	240
cttgaggatt	gnagagataa	tgagaacata	agaaatgaaa	accagaccca	taggtacaac	300
aagcaccagc	acactgataa	tcaaagtcag	gatttcattg	acagtgggtg	caatgcagga	360
gagcttcac	acagngcgga	tgacacagaa	gaagtggggc	acctttctag	cacagaaggg	420
taacctgaat	acagatgtca	cttgcggtat	tgctacaatc	agcccaatgc	tgcnggcccc	480
caggacaagt	tggatacgca	gccttntcgt	tctantaacc	atgtatctca	angggcttgc	540
ngatnnccac	atactngcat	anaccattgc	tgngagc			577

&lt;210&gt; 15

&lt;211&gt; 583

&lt;212&gt; DNA

&lt;213&gt; Homo Sapien

&lt;220&gt;

&lt;221&gt; variation

&lt;222&gt; 2, 5, 7, 13, 427, 485, 488, 532, 559, 569, 574, 583

&lt;223&gt; N can be any nucleotide

&lt;400&gt; 15

gncgntntta	acnccattgg	agctccaaag	cagtggtaac	aacgcagagt	acgcccatta	60
cgaaaagtgt	agatgaaggg	gttcaagagg	ggtgtgatga	tgcagctcag	gacggaggca	120
cctttgttga	gcagtttgg	ctgagcctct	gacatacgaa	tgtagagaaa	gatggaactg	180
ccatagatga	tgaccaccac	tgtaagatgc	gaggcgcaag	tggaaaacgc	tttccttcgc	240
tcagcagctg	tagggggcct	gagaacagtg	gcaagaatgc	aggcatagga	aactgaggtc	300
agagccagtg	agcccagtaa	caccaacgta	gagagcatga	aagccaccag	tttcagcagg	360
tgggtgtccc	cacaagaaag	cctgagcaag	ggccaactgt	cacgaaagaa	gtggtcaata	420
ccattgnggc	cacagaaagg	catggctggc	catgaggaca	gtggggcaaa	ggaccagag	480
gaatncanct	agccaggagg	ccacactagt	ttgtgaacag	acatggccat	tnattagggt	540
ctcatagcgg	agttgtcgnc	agatttgcnt	ggtnacgatt	can		583

&lt;210&gt; 16

&lt;211&gt; 577

&lt;212&gt; DNA

&lt;213&gt; Homo Sapien

&lt;220&gt;

&lt;221&gt; variation

&lt;222&gt; 3-4, 12, 14, 549

&lt;223&gt; N can be any nucleotide

&lt;400&gt; 16

ggnnnttttac	cncnattgga	ctccaaagca	gtggtaacaa	cgcagagtac	gccccctatg	60
tattttattct	tgctcacctc	tccttagttg	atatctgttt	taccaccagt	attgtccccc	120
agctgctgtg	gaacctaaaa	ggacctgaca	aaacaatcac	attcctgggt	tgtgtcatcc	180
agctctacat	ctccctggca	ttgggtctca	ctgagtgtgt	cctcctgggt	gtaatggctt	240
ttgatcgctg	tgctgcagtt	tgcaaacctc	tccactatac	cgccgtaatg	aaccttcagc	300
tgtgccagtc	tctggcaggg	gttgctgtgg	tgagtggagt	gggaaacact	cttatccagg	360
gcactgtcac	cctctggctt	ccccgctgtg	gacaccgatt	gctccaacat	ttcttcgtga	420
ggtaccctcc	atgattaagc	ttgcatgtgt	ggacatccat	gataatgagg	ttcagctctt	480

tgttgcttca ctggctcttgcc tctctcttgcc cttagtgtcta atactgctgc ctatggacat 540  
 atagccaang tggcataaag gatcaagtca gtccagg 577

<210> 17  
 <211> 621  
 <212> DNA  
 <213> Homo Sapien

<220>  
 <221> variation  
 <222> 2-5, 8, 13, 618  
 <223> N can be any nucleotide

<400> 17  
 gnnnnntntt cantccattg ggccctctag atgcatgtc gagcgccgc cagtgtgatg 60  
 gatatctgca gaattcgccc ttattccgga gggatatacat gaagggattg gtaactagac 120  
 gtaaaactcga agccaagaac agaatttctc ttagaaaaga gaattgaaac taaagagaaa 180  
 gaactagcaa agaaggaaat attgaatata caagagagag gagacagatg atggaacaag 240  
 actctgaaag aggtggaagg gattgaatac aatcaaaagt atggtgactg ctagtctcaa 300  
 gatggtggcg taggggcaag ctggctttgc ttacccccct ggcagaaaac caaaaacaaa 360  
 tagcaccaag attatcacta gcaatatccc agaactcaca tataaggatg agacagttcc 420  
 caggggccag agaagatcag aagcacaagt gggagaagtc agctttggat gctactttgt 480  
 tctaaggggag acaagttggg aggatgattg cagatgtata ttcaatgtta taaaacagcc 540  
 cataaaaaca agattggaaa atgttgatt ttgcaaccag gagcaaatac tgggaaaggc 600  
 gaattccagc cacttgcneg c 621

<210> 18  
 <211> 615  
 <212> DNA  
 <213> Homo Sapien

<220>  
 <221> variation  
 <222> 2-5, 8, 10, 14, 21, 583  
 <223> N can be any nucleotide

<400> 18  
 gnnnnntnna tcantgccct ngggccctct agatgcatgc tcgagcggcc gccagtgtga 60  
 tggatatctg cagaattcgc cttgtgtgag caagggtgtaa atgaaagggg ttgcgcagga 120  
 gtaaatgaag ggattacgca ggagtaaagt aagggtattac gcaggagtaa atgaaggat 180  
 tacgcaggag taaatgaagg gattacgcag gagtaaatag agggattacg caggagtaaa 240  
 tgaagggtatt acgcaggagt aatgaaggg attacgcagg agtaaataga gggattacgc 300  
 aggagtaaat gaagggatta cgcaggagta aatgaaggga ttacgcagga gtaaatgaag 360  
 ggattacgca ggagcaaata cataggaagg gcgaattcca gcacactggc ggccgttact 420  
 agtggatccg agctcggtac caagcttgat gcatagcttg agtattctaa cgcgtcacct 480  
 aaatagcttg gcgtaatcat ggtcatagct gtttctctgt tgaaattgtt atccgctcac 540  
 aattccacac aacatacgag cccggaagca taaagtgtaa agnctggggg gcctaataag 600  
 tgacttactc catta 615

<210> 19  
 <211> 696  
 <212> DNA  
 <213> Homo Sapien

<220>  
 <221> variation  
 <222> 2-3, 5, 7, 287, 300, 309, 313, 328, 331, 343, 345, 347, 360, 366,  
 386, 388, 391, 394, 401, 407, 416, 420, 428, 432, 434, 437, 441,  
 443, 448, 450, 452, 457-458, 463, 476, 484-485, 493, 503, 506, 514,  
 518, 520, 524, 528, 540, 541, 548, 550, 553-554, 557, 561-562,

566-568, 571-572, 575, 582, 584-585, 587-588, 603, 607, 614,  
620,  
623, 627, 629, 641, 648, 652, 661-662, 665-666, 668, 672, 675, 678,  
684, 695

<223> N can be any nucleotide

<400> 19

gnnantnatt	ccatccattg	tcccttcaga	tgcattgctcg	agcggccgcc	agtgtgatgg	60
atatctgcag	aattcgccct	tcttggtttt	tgtgctgata	gatcatggga	ttcagcatgg	120
gggtgaccac	agtgtacatc	actgaggctg	ttgcacttga	gtgtgagttg	cgggtggcag	180
cagaactaag	gtacaccctt	aggattgcac	cataaaataa	ggagacaact	gagaggtgag	240
atgcacaggt	ggaagatgcc	ttgtacttcc	cctgagctga	tgagatngca	tgtatggaan	300
gaaattatnt	tanaagtaag	agtaaagnat	nccagtcagg	ggnancnttc	acccatcagn	360
tgcaanttgt	aaaaattata	ttcaancnat	ntgnatttaa	ngaaaaancct	tatcangtan	420
acactgcnaa	gntntgnatt	nanccctngn	anttaannnt	tcnacaagaa	aataangtgc	480
gttnnaatct	ttntaagtec	ctntcnccat	taangtcnan	tcntccnta	tcccttttcn	540
nattttgnan	tcnngantac	nntctnnngc	nntcnatttc	tntnntnnct	gacctactaa	600
ccnattnagt	tacnacaagn	ccnttcnant	ctctataatt	nctcgcangt	tntccctctt	660
nncanntnec	cnttntntc	cctnttcccc	atctnc			696

<210> 20

<211> 615

<212> DNA

<213> Homo Sapien

<220>

<221> variation

<222> 495, 545, 582, 600

<223> N can be any nucleotide

<400> 20

ccattggccc	tctagatgca	tgctcgagcg	gccgccagtg	tgatggatat	ctgcagaatt	60
cgcccttccct	atgtattttc	tcttactggg	ctttcctggg	tctcaaactc	ttcagctctc	120
tctctttatg	ctttttctgg	tgatgtacat	cctcacagtt	agtggtaatg	tggctatctt	180
gatgttggtg	agcacctccc	atcagttgca	tacccccatg	tacttctttc	tgagcaacct	240
ctccttcctg	gagatttggt	ataccacagc	agcagtgccc	aaagcactgg	ccatcctact	300
ggagagaagt	cagaccatat	cattttacaag	ctgtcttttg	cagatgtact	ttgttttctc	360
attaggctgc	acagagtact	tcctcctggc	agccatggct	tatgaccgct	gtcttgccat	420
ctgctatcct	ttacactacg	gagccatcat	gagtagcctg	ctctcagcgc	aactggcctt	480
gggctttctg	gtggntgggt	tcggggggcaa	tgccagtgccc	acaggccttc	aatcaagtgg	540
gctgntcctt	ctgggtggccc	ccgggtgccaa	tcaaccactt	tntttttggg	acaattgcan	600
ccctggaatt	ggccc					615

<210> 21

<211> 745

<212> DNA

<213> Homo Sapien

<220>

<221> variation

<222> 2-3, 8, 21, 23, 26, 33, 43, 116, 201, 212, 222, 239, 252, 279, 282,  
288, 292-293, 308, 320, 325, 328-330, 333-334, 339-341, 344, 354, 360, 365,  
372, 377, 382-383, 388, 390, 394, 397, 402, 415, 418, 422, 424-425, 427, 431,  
436, 441, 445, 450, 451, 457, 466, 493, 495, 498, 501, 508-509, 513, 515,  
517-518, 520-523, 525, 528-529, 535, 538, 540-542, 544-546, 548-550, 553,  
555, 565, 584, 586, 592-593, 607-608, 615, 617, 619, 621, 634, 636-637, 644-  
645, 651, 656, 662, 671, 685, 693, 697, 699, 710, 714, 735, 737, 740, 745

<223> N can be any nucleotide

<400> 21

gnncttantt	caatcccacc	nancentgcc	gangcatget	cgngcggccg	ccagtgtgat	60
ggatatctgc	agaattegcc	cttcctatgt	atttactctt	actgggcttt	cctggntctc	120
aaactcttca	gctctctctc	tttatgcttt	ttctgggtgat	gtacatectc	acagttagtg	180
gtaatgtggc	tatcttgatg	ntgggtgagca	cntcccatca	gntgcatacc	cccatgttnt	240
tctttctgag	cnacctctcc	tctctggaga	tttggtatnc	cncaagcngc	anngccaaa	300
gctttgcnca	tcttattgcn	cagangcnnn	ccntacann	nacnctcctg	ttntctgctn	360
ccttnctctt	tncttctctc	anntactnct	tctnctntag	tnctttctct	ctctntctct	420
cntnnctct	ntaatnttcc	ncctnttctn	ntttctnttt	tccctnctct	gtttcacccc	480
tacctcttat	centnctnct	nacttcannc	tcngncnntn	nnncnccnnt	aaatntangn	540
nnannntnnn	atntnctctt	ctccttttat	atcgctctct	ctctnctctc	cnnttctctc	600
tectcannca	tatcnantnt	nttctactct	cgtnccntat	ctannctcct	ntttcngtcc	660
tncttctcct	ntcatttcta	tattnttctt	canacantnt	tcgcatcgtn	gcancatctc	720
ctcccatctc	ctgtncnctn	tccn				745

&lt;210&gt; 22

&lt;211&gt; 614

&lt;212&gt; DNA

&lt;213&gt; Homo Sapien

&lt;220&gt;

&lt;221&gt; 2-4, 9, 19, 23, 47, 613

&lt;222&gt; (3)...(3)

&lt;223&gt; N can be any nucleotide

&lt;400&gt; 22

gnmnttaant	cattcccnc	tcnatgcatg	ctcgagcggc	cgccagngtg	atggatatct	60
gcagaattcg	cccttgtttc	ggaggcagta	gatgaatggg	ttgatggaat	ctgagacagt	120
gctctagaat	ctgtgtttca	tacaggatga	gatataaatg	aaacaaatgc	taaataatga	180
cacaaggtag	cttgccgaga	gaggaatcat	ccacctggaa	gggtaggctg	tttgtgaata	240
atgtaggggtg	ggagagaagg	ctttactaag	gagatgggct	taaagaatgt	gaacgatgtg	300
ctcacagagg	ccacagaaga	gaaattatag	ccaggagaac	aacctgaaag	acaaaggaca	360
cggtggcatg	agcgcatgta	acacaatgta	ctcaggaaat	ggctggcatc	ctgagatatg	420
gagtgggaata	cagtacaggg	ctttgtaaac	tcagcttgga	gtcagatcac	agaaagcctt	480
gacaagggaac	tgaataatggg	ttctgaaggc	cagaagccca	ttcaagattc	ccaaaggga	540
aaacacaaat	cagcttggtt	tcaggacgta	attcttggtc	gttgctagaa	ttacatcaga	600
aaggagggtc	acnt					614

&lt;210&gt; 23

&lt;211&gt; 621

&lt;212&gt; DNA

&lt;213&gt; Homo Sapien

&lt;220&gt;

&lt;221&gt; variation

&lt;222&gt; 2-4, 6, 8, 12-13, 16, 507, 561, 583, 592

&lt;223&gt; N can be any nucleotide

&lt;400&gt; 23

gnmntnanc	anncantggg	ccctctagat	gcattgctga	gcgcccgcca	gtgtgatgga	60
tatctgcaga	attegecett	cctatgtatt	tcctcttact	gggctttcct	ggttctcaaa	120
ctcttcagct	ctctctcttt	atgctttttc	tggtgatgta	catccccaca	gttagtggtg	180
atgtggctat	cttgatgttg	gtgagcacct	cccatcagtt	gcatacccc	atgtacttct	240
ttctgagcaa	cctctccttc	ctggagattt	ggtataccac	agcagcagtg	cccaaagcac	300
tggccatcct	actggggaga	agtcagacca	tatcatttac	aagctgtctt	ttgcagatgt	360
actttgttat	ctcattagge	tgcacagagt	acttcctcct	ggcagccatg	gcttatgacc	420
gctgtcttgc	catctgctat	cctttacact	acggagccat	catgagtagc	ctgctctcag	480
cgcagctggc	cctgggctcc	tgggtgnggg	ggttcgtggc	cattgcaagt	gcccacaagc	540
cctaatacag	ggcctgtcc	ntctgggggc	ccccgggcca	tnnaccactt	tnntctggga	600
caattgcacc	cctggaattg	g				621

&lt;210&gt; 24

<211> 612  
 <212> DNA  
 <213> Homo Sapien

<220>  
 <221> variation  
 <222> 2-3, 8, 16, 20, 26, 557  
 <223> N can be any nucleotide

<400> 24  
 tnnttaantc attcctnttgn ccctcnagat gcatgctcga gcggcccgcca gtgtgatgga 60  
 tatctgcaga attcgccctt tccttggttac tgaggagta gattagggga ttgatggaat 120  
 ctgagacagt gctctagaat ctgtgtttca tacaggatga gatataaatg aaacaaatgc 180  
 taaataatga cacaaggtag cttgccgaga gaggaatcat ccacctggaa gggtaggctg 240  
 tttgtgaata atgtagggtg ggagagaagg ctttactaag gagatgggct taaagaatgt 300  
 gaacgatgtg ctcacagagg ccacagaaga gaaattatag ccaggagaac aacctgaaag 360  
 acaaaggaca cgggtggcata agcgcatgta acacaatgta ctcaggaaat ggctggcatc 420  
 ctgagatatg gagtggaata cagtacaggg ctttgtaaac tcagcttgga gtcagatcac 480  
 agaaagcctt gacaaggaac tgaaaatggg ttctgaaggc cagaagccat tcaagattcc 540  
 caaagggaaa aacacanatc acttgttttc aggacgtatt cttgggcagt tgctagaatt 600  
 acatcagaaa gg 612

<210> 25  
 <211> 632  
 <212> DNA  
 <213> Homo Sapien

<220>  
 <221> variation  
 <222> 2-5, 9, 614  
 <223> N can be any nucleotide

<400> 25  
 gnnnttant ccattgcccct ctagatgcat gctcgagcgg ccgccagtgt gatggatatac 60  
 tgcagaattc gcccttgttt cgcagcctat aaatgaaggg gttgatggaa tctgagacag 120  
 tgctctagaa tctgtgtttc atacaggatg agatataaat gaaacaaatg ctaaataatg 180  
 acacaaggta ccttgccgag agaggaatca tccacctgga agggtaggct gtttgtgaat 240  
 aatgtagggt gggagagagg gctttactaa ggagatgggc ttaaagaatg tgaacgatgt 300  
 gctcacagag gccacagaag agaaattata gccaggagaa caacctgaaa gacaaaggac 360  
 accggtggca taagcacatg taacacaatg tactcaggaa atggctggca tcctgaggta 420  
 tggagtggaa tacagtaccg gggctttgta aactcagctt ggagtcagat ccagaaagcc 480  
 cttgacaagg aactgaaaat tgggttcttg aaggccagaa gccattcaag gattccccaa 540  
 aggggaaaaa cacaatatca gcttgttttc agggaccgtt aattctgggg ccaggttgct 600  
 tgaattacct tcangaaagg gaggttcaca ct 632

<210> 26  
 <211> 628  
 <212> DNA  
 <213> Homo Sapien

<220>  
 <221> variation  
 <222> 2-3, 419, 423, 426, 437, 439, 453, 460, 463, 469, 478, 489, 492,  
 536, 539, 579, 583, 586, 594, 598, 616, 623, 627  
 <223> N can be any nucleotide

<400> 26  
 gnncttatcc atccccctct agatgcatgc tcgagcggcc gccagtgtga tggatatctg 60  
 cagaattcgc cttttctttg ttctcagag tgtagattag ggggttgatg ggggttgatg 120  
 aatctgagac agtgctctag aatctgtgtt tcatacagga tgagatataa atgaaacaaa 180  
 tgctaaataa tgacacaagg taccttgccg agagaggaat catccacctg gaagggtagg 240

ctgtttgtga	ataatgtagg	gtgggagaga	aggctttact	aaggagatgg	gcttaaagaa	300
tgtgaacgat	gtgctcacag	agggcacaga	agagaaatta	tagccaggag	aacaacctga	360
aagacaaagg	acacggtggc	ataagcgcat	gtaacacaat	gtactcagga	aatggctgnc	420
atnctnagat	atggagngng	aataccagta	canggctttt	tanactcanc	ttggagtnc	480
gaatcacana	angccttgca	aggaactgaa	aatgggttct	gaaaggccag	aagccttna	540
agattcccaa	agggaaaaaa	cacaaatcaa	gcttttttna	agnacngtaa	ttcntggngc	600
cagttgctta	gaattnccat	canaaang				628

&lt;210&gt; 27

&lt;211&gt; 803

&lt;212&gt; DNA

&lt;213&gt; Homo Sapien

&lt;220&gt;

&lt;221&gt; variation

<222> 3-4, 19, 168, 190, 202, 245-246, 250, 260, 266, 280, 281, 284, 286, 289, 301, 303, 305, 313, 332-333, 348, 355, 357, 360, 365-366, 370, 372, 376, 379, 384, 387-390, 394-396, 400, 406-407, 411-412, 416-418, 421, 423, 430, 439-440, 442-443, 446, 448, 462-463, 468-469, 480, 482-483, 490, 493, 498, 506-508, 518-519, 523, 532, 534, 536, 539, 547, 549, 556, 559, 573-575, 580-581, 587, 590, 595-596, 600-601, 603, 612, 614, 618, 623, 629, 633, 640, 643, 646, 655-656, 658, 666, 682, 689, 696, 704, 708-709, 718, 721, 732, 738-739, 743, 746, 751, 759, 764-765, 771, 775, 782-783, 788-789, 791-792, 795, 801

&lt;223&gt; N can be any nucleotide

&lt;400&gt; 27

ggnttaagcc	tccccctnc	gatgctgctc	gagcgccgc	cagtgtgatg	gatatctgca	60
gaattcgccc	tcccatgta	tttctctta	ctgggctttc	ctgggtctca	aactcttcag	120
ctctctctct	ttatgctttt	tctgggtgatg	tacatctca	cagttagnng	taatggggct	180
atcttgatgn	tggtgagcac	cncccatcag	ttgcataccc	ccatgtactt	ctttctgagc	240
aaccnntecn	tcctggagan	tttggnatat	cacacgcaan	nagnngccna	aggcacttgg	300
nentnctaca	ggnggagaag	gcttgaccat	annattttac	catgcctngc	cttangncan	360
accenncttn	tncctntnt	tcnctnnnn	ggtnnntcan	cgcannctt	nnatcnntg	420
nancttcatt	gaatatggnn	tnngtntntc	ttgagagcct	cnngatenna	ttttttccan	480
cnctaaagn	ggngcttntc	tctctnnnat	ctagcttntt	ggntctcttt	tnntnctna	540
ccgtgntnt	cctatntgnt	gtctcttctc	acnnnctgen	nttatnttan	atcanntctn	600
ncntgtctct	cntntacnac	atnatcatnc	tcnctcccn	ctntcnctct	ctatnmenta	660
ccatcnctct	cttctcattc	anctctttnt	cattgnttgt	tcanttannc	actctccntc	720
ncatcttcta	tnactannt	ttnttntttt	netctctant	tctnnttcca	ntgtncactc	780
cnntcttnc	nnttncccta	ncg				803

&lt;210&gt; 28

&lt;211&gt; 620

&lt;212&gt; DNA

&lt;213&gt; Homo Sapien

&lt;220&gt;

&lt;221&gt; variation

&lt;222&gt; 3, 4, 7, 9, 10, 11, 24, 563

&lt;223&gt; N can be any nucleotide

&lt;400&gt; 28

gtntntnann	ncattgcccc	tctngatgca	tgctcgagcg	gccgccagtg	tgatggatat	60
ctgcagaatt	cgcccttctc	atgtacttcc	tcttaccggg	ctttcctggt	tctcaaactc	120
ttcagctctc	tctctttatg	ctttttctgg	tgatgtacat	cctcacggtt	agtggtaagt	180
tggctatctt	gatgttgggt	agcacctccc	atcagttgca	tacccccatg	tacttctttc	240
tgagcaacct	ctccttctct	gagatttggg	ataccacagc	agcagtgccc	aaagcactgg	300
ccatcctact	ggggagaagt	cagaccatat	catttacaag	ctgtcttttg	cagatgtact	360
ttgttttctc	attaggtgc	acagagtact	tctctctggc	agccatggct	tatgaccgct	420
gtcttgccat	ctgctatcct	ttacactacg	gagccatcat	gagtagcctg	ctctcagcgc	480
agctggccct	gggcttctgg	gtgggtgggt	ttcggggcca	ttgcaagtgc	ccacagccct	540

tatcaagtgg cctgtccttc tgnngccccc gggcccatca accacttttt tctggggaca 600  
attgcaccct ggaatggccc 620

<210> 29  
<211> 620  
<212> DNA  
<213> Homo Sapien

<220>  
<221> variation  
<222> 3-5, 7-9, 15, 567, 574, 585, 596, 606, 611-612, 616, 618-619  
<223> N can be any nucleotide  
<400> 29

gtnnntnnnt	ccatnccatt	gggccctcta	gatgcatgct	cgagcggccg	ccagtgtgat	60
ggatatctgc	agaattcgcc	ctttcatggg	tccggaaaca	gtaaattatg	gggttcagtc	120
atggtaacag	gaggaggctg	agtgtatggg	catggatggg	ggctgtgaat	gtggcgggag	180
ctcatggatg	tgctcttctg	agtgtctcac	gtttctgagt	gaaataagaa	gcaagggtcat	240
caccgagagg	gaggagacag	gctcgggtga	gtttagtggg	tatgaatcca	agagagacca	300
ttcaacttag	ttgtctatct	ttttttcttc	cagttatagt	cacttgcattg	aatgtatgatg	360
tggagtactt	gatcataaga	tccattttat	ggcagaagac	attatttttc	tgagccttct	420
gctgtcagtt	tctaaataag	caggccagcc	gggtgtgca	cctaaatgtc	tgctctgggag	480
gagcaggctg	agaagtcttg	cagtctgcag	gacacccgag	gaatcgtatt	gtgggaaccg	540
tccccgagaa	ccacacgagc	cgtgctnctc	agtnctgact	ggaanaatga	aattgnaagc	600
caagtngttc	nnggancnnt					620

<210> 30  
<211> 616  
<212> DNA  
<213> Homo Sapien

<220>  
<221> variation  
<222> 2-4, 7, 9-10, 580  
<223> N can be any nucleotide

<400> 30						
gnnnntnnnn	ccattgcgcc	ctctagatgc	atgctcgagc	ggccgccagt	gtgatggata	60
tctgcagaat	tcgcccttcc	tatgtatttc	tcttcctaac	gattggaatg	cctgggatta	120
ggcagatgat	tttctttttc	ccccataccc	ctctattatt	taggtgattg	agtttaaatc	180
ccttttatcta	cacccttcgg	aacaagggcg	aattccagca	cactggcgcc	cgttactagt	240
ggatccgagc	tcggtaccaa	gcttgatgca	tagcttgagt	attctaacgc	gtcacctaaa	300
tagcttggcg	taatcatggg	catagctgtt	tcctgtgtga	aattgttatc	cgctcacaat	360
tccacacaac	atacgagccg	gaagcataaa	gtgtaaagcc	tgggggtgcct	aatgagttag	420
ctaactcaca	ttaattgcgt	tgcgtcact	gcccgttttc	cagtcgggaa	acctgtcgtg	480
ccagctgcat	taatgaatcg	gccaacgcgc	ggggagaggc	ggtttgcgta	ttgggcgctc	540
ttccgcttcc	tcgtcactg	actcgctggg	cttcggtcgn	tcggctgcgg	cgagcgggat	600
cagctcactc	aaaagg					616

<210> 31  
<211> 612  
<212> DNA  
<213> Homo Sapien

<220>  
<221> variation  
<222> 2-9, 13, 507, 554, 585, 598, 600, 609  
<223> N can be any nucleotide

<400> 31						
gnnnnnnnnt	cangccattg	ggccctctag	atgcatgctc	gagcggccgc	cagtgtgatg	60
gatattctgca	gaattcgccc	ttcctatgta	tttctcttca	ctttctccga	catcactcac	120

agccacccca	ccctcagcct	ctccctcttc	ccatgtatatt	tctcttcaat	ctctccttct	180
ttgatatacct	gaactttctg	tagctcttta	ttttctcttc	caatcccttc	atatacacgt	240
ttcgtaacaa	gggcgaattc	cagcacactg	gcggccgtta	ctagtggatc	cgagctcggg	300
accaagcttg	atgcatagct	tgagtattct	aacgcgtcac	ctaaatagct	tggcgtaatc	360
atgggtcatag	ctgtttcctg	tgtgaaattg	ttatccgctc	acaattccac	acaacatacg	420
agccggaagc	ataaagtgtg	aagcctgggg	tgccctaata	gtgagctaac	tcacattaat	480
tgcgtgcgt	cactggccgc	tttccangtc	gggaaacctg	tcggccagct	gcattaaatg	540
aatcggccaa	cgcncggga	gaggcggttt	gcgtattggg	cgctntttcg	ttcttcgntn	600
actgatcgt	gg					612

&lt;210&gt; 32

&lt;211&gt; 616

&lt;212&gt; DNA

&lt;213&gt; Homo Sapien

&lt;220&gt;

&lt;221&gt; variation

&lt;222&gt; 2-9, 15, 521, 596

&lt;223&gt; N can be any nucleotide

&lt;400&gt; 32

gnnnnnnnnnt	tcatnccatt	gggcccctcta	gatgcgatgt	cgagcgggccc	ccagtgtgat	60
ggatatctgc	agaattcgcc	cttggtgctt	agagtgtaaa	taaaagggtt	aacattgggt	120
tagaggtgaa	gagtaaatac	ataggaaggg	cgaattccag	cacactggcg	gccgttacta	180
gtggatccga	gctcggtacc	aagcttgatg	catagcttga	gtattctaac	gcgtcaccta	240
aatagcttgg	cgtaatcatg	gtcatagctg	tttctgtgtg	gaaattgtta	tccgctcaca	300
attccacaca	acatacgagc	cggaagcata	aagtgtaaa	cctgggggtgc	ctaattgagt	360
agctaactca	cattaattgc	gttgcgctca	ctgcccgtt	tccagtcggg	aaacctgtcg	420
tgccagctgc	attaatgaat	cggccaacgc	gcggggagag	gcggtttgcg	tattgggcgc	480
tcttccgctt	cctcgctcac	tgactcgctg	cgctcggtcg	ntcggctcg	gcgagcggtg	540
tcaagctcac	tcaaaggcgg	taatacgggt	atccacagaa	tcagggggat	acgcangaaa	600
gaacatgtga	gcaaat					616

&lt;210&gt; 33

&lt;211&gt; 621

&lt;212&gt; DNA

&lt;213&gt; Homo Sapien

&lt;220&gt;

&lt;221&gt; variation

&lt;222&gt; 2, 4, 6, 8, 19, 27, 31, 464, 526, 554, 578, 598, 600, 615

&lt;223&gt; N can be any nucleotide

&lt;400&gt; 33

gntntnanc	atgccccnc	cgatgcntgc	ncgagcggcc	gccagtgtga	tggatatctg	60
cagaattcgc	ccttggtgcg	gagcgaatat	atgaaggggt	taagggaaga	gaaaatacat	120
aggaagggcg	aattccagca	cactggcgcc	cgttactagt	ggatccgagc	tcggtaccaa	180
gcttgatgca	tagcttgagt	attctaacgc	gtcacctaaa	tagcttggcg	taatcatggt	240
catagctgtt	tcctgtgtga	aattgttate	cgctcacaat	tccacacaac	atacgagccg	300
gaagcataaa	gtgtaaagcc	tggggtgcct	aatgagttag	ctaactcaca	ttaattgcgt	360
tgcgctcact	gcccgcttcc	cagtcgggaa	acctgtcggt	ccagctgcac	taatgaatcg	420
gccaacgcgc	cggggagagg	cggtttgcgt	attgggcgct	cttncgcttc	ctcgctcact	480
gactcgcttg	cgctcggtcc	gttcggctgc	ggcgagcggt	atcaantcac	tcaaaaggcg	540
ggaatacggg	tttncacaga	aatcaggggg	ataacgcngg	aaagaacatg	tgagccanan	600
ggcagcaaaa	gggcnaggaa	t				621

&lt;210&gt; 34

&lt;211&gt; 614

&lt;212&gt; DNA

&lt;213&gt; Homo Sapien

<220>  
 <221> variation  
 <222> 2-9, 13-14, 593  
 <223> N can be any nucleotide

<400> 34  
 gnnnnnnnnnt canncattg ggccctctag atgcatgctc gagcggccgc cagtgtgatg 60  
 gatatactgca gaattcgccc ttgttccgaa ggctatagat gaagggggtt taggttttta 120  
 ggaacacagg ctaaggggga agagaaaata catgggaagg gcgaattcca gcacactggc 180  
 ggccgttact agtggatccg agctcggtag caagcttgat gcatagcttg agtattctaa 240  
 cgcgtcacct aaatagcttg gcgtaatcat ggtcatagct gtttccctgtg tgaaattggt 300  
 atccgctcac aattccacac aacatacgag ccggaagcat aaagtgtaaa gcctgggggtg 360  
 cctaattgagt gagctaactc acattaattg cgttgcgctc actgcccgtt tccagtcgg 420  
 gaaacctgtc gtgccagctg cattaatgaa tcggccaacg cgcggggaga ggcggtttgc 480  
 gtattgggcg ctcttcgctc tcctcgtcga ctgactcgct gcgctcggtc gtcggctgcg 540  
 gcgagcggta tcagctcact caaaggcggg aatacgggta tccacagaat cangggataa 600  
 cgcaggaaaa gaca 614

<210> 35  
 <211> 614  
 <212> DNA  
 <213> Homo Sapien

<220>  
 <221> variation  
 <222> 3-4, 7, 9, 23, 599, 611  
 <223> N can be any nucleotide

<400> 35  
 ggnnttnant cattgccccg ctngatgcat gctcgagcgg ccgccagtgt gatggatata 60  
 tgcagaattc gcccttccga tgtattttct tctacgttaa ggtattttta attgttacta 120  
 atgcataagg gcaacacatt ctgtaatgct gacaagatga aagagccaaa agtaattaat 180  
 gatgctgtta cctcacaaat atgtatgtgt ggatgtatat atatctattc aatatatgta 240  
 actatacata tgtctgtttc taattgaaaa caccaggtaa ttatcatctg tagaaaccct 300  
 agtgtctcag ataagttggc tagttttttg tttcacataa aggaacaaac atttatagat 360  
 ttatatgtat attaaaaatg gtaaaaattg gctgggtgca gtggttcatt cctataatac 420  
 cagcactttg ggaagccgag gtgggcggat tacttgaggt aaggagccca gcctgaccaa 480  
 caaggtgaaa ccccatccct actaaaaata caagaattag cccgggggat gtggtggcca 540  
 cctgtaatcc cagctacttg ggagactgaa gccaggaaaa tcacttgacc caggaagcng 600  
 aggttgacag ngag 614

<210> 36  
 <211> 611  
 <212> DNA  
 <213> Homo Sapien

<220>  
 <221> variation  
 <222> 1, 3-5, 10, 18-20, 22, 26, 605  
 <223> N can be any nucleotide

<400> 36  
 ngnnnttgan tcaattcnnn gncgangcat gctcgagcgg ccgccagtgt gatggatata 60  
 tgcagaattc gcccttccga tgtattttct tctagccaac ctcccactca ttgatctgtc 120  
 tctgtcttca gtcataggcc ccaagatgat tactgacttt ttcagccagc gcaaagtcatt 180  
 ctctttcaag ggctgccttg ttcagatatt tctccttcac ttctttgggtg ggagttagat 240  
 ggtgatcctc atagccatgg gctttgacag atatatagca atatgcaaac ccctacacta 300  
 cactacaatt atgtgtggca acgcatgtgt cggcattatg gctgtcgcat ggggaattgg 360  
 ctttctccat tcggtgagcc agttggcctt tgccgtgcac ttacccttct gtgggtcccaa 420  
 tgaggtcgat agtttttatt gtgaccttc tagggtaacc aaacttgccct gtacagatac 480  
 ctacaggcta gatattatgg tcattgctaa cagtgggtgt ctcactgtgt ggtcttttgt 540

cttctaataca tctcatacac tatcatacta atgaccatcc agcattgccc tttagataag 600  
tcgtncaaag g 611

<210> 37  
<211> 616  
<212> DNA  
<213> Homo Sapien

<220>  
<221> variation  
<222> 2-4, 6, 8, 12-14, 17, 19-20, 442, 595, 599  
<223> N can be any nucleotide

<400> 37  
gnnnntnanc cnnncnncnn ctagatgcat gctcgagcgg ccgccagtgt gatggatata 60  
tgcagaattc gcccttccca tgtatttgct tctcagcaac ttgtccttct ctgacctctg 120  
cttctcttcc gtgaccattc ccaagttggt acagaacatg cagaaccagg acccatccat 180  
cccctatgcg gactgcctga cccaaatgta cttcttccctg ttatttggag acctggagaa 240  
cttctctctt gtggccatgg cctatgaccg ctatgtggcc atctgcttcc ccctgcacta 300  
caccgccatc atgagcccca tgcctctgtc cgccctgggt gcgctgtcct ggggtgctgac 360  
caccttccat gccatgttac acactttact catggccagg ttgtgttttt gtgcagacaa 420  
tgtgatcccc caactttttct gngatatgtc tgctctgctg aagcaggcct tctctgacac 480  
tcgagttaat gaatgggtga tatttatcat gggagggtc attcttgtca tcccatctct 540  
actcattctt gggctctatg caagaattgt ctctcatcc tcaagggtcc tttntaang 600  
gtatctgcaa ggccct 616

<210> 38  
<211> 615  
<212> DNA  
<213> Homo Sapien

<220>  
<221> variation  
<222> 1, 3-6, 9, 11, 14, 16, 20, 21, 23, 540, 566  
<223> N can be any nucleotide

<400> 38  
ngnnnttna ntcnangcnn ngngccctct agatgcatgc tcgagcggcc gccagtgtga 60  
tggatatctg cagaattcgc ccttccaatg tatttacttc tcagccagct ctcccttatg 120  
gacctgatgt acatctccac caccgtcccc aagatggcgt acaacttctt gtccggccag 180  
aaaggcatct ccttccctggg atgtggtgtg caaagcttct tcttcttgac catggcgtgt 240  
tctgaaggct tactcctgac ctccatggcc tacgaccgtt atttggccat ctgccactct 300  
ctctattatc ctatccgcat gagtaaaatg atgtgtgtga agatgattgg aggtctcttg 360  
acactggggt ccatcaactc cttggcacac acagtctttg cccttcatat tccctactgc 420  
aggtctaggg ctattgacca tttcttctgc gatgtcccag ccattgttgc tcttgctgta 480  
cagatacttg ggtctatgaa tatatggttt ttgtaaggac aaagcctctt tcttcttttn 540  
cctttcattg gcatcacttc ttctgngggc cgagtcttaa ttgctggcta tataatgcac 600  
tcaaaggagg ggagg 615

<210> 39  
<211> 615  
<212> DNA  
<213> Homo Sapien

<220>  
<221> variation  
<222> 4-8, 12-13, 17-18, 22-23, 26-28, 469, 591, 596  
<223> N can be any nucleotide

<400> 39  
tagnnnnntt anntcanngc cnntgnnngc tcagatgcat gctcgagcgg ccgccagtgt 60

gatggatata	tgcagaattc	gcccttccaa	tgtattttct	tctcagcagg	agagatatatt	120
atcctcaactg	ccatgtccta	tgaccgctat	gtagccatct	gctgtccctt	gaactacgag	180
gctgcacaga	gtacttcttc	ctggcagcca	tggcttatga	ccgctgtctt	gccatctgct	240
atcctttaca	ctacggagcc	atcatgagta	gcctgtcttc	agcgcagctg	gccctgggct	300
cctgggtctg	tggtttcgtg	gccattgcag	tggccacagc	cctcatcagt	ggcctgtcct	360
tctgtggccc	ccgtgccatc	aaccactttct	tctgtgacat	tgcacpctgg	attgccctgg	420
cctgcaccaa	cacacaggca	gtagagcttg	tggcctttgt	gattgtcgtnt	gtggttatcc	480
tgagttcatg	cctcatcacc	cttgtctcct	atgtgtacat	catcagcacc	atccttagga	540
tccctctgc	agtggccgga	gcaaagcctt	ctcccgtgct	cctcgcacat	naacngngtg	600
ctcatttggg	atggg					615

<210> 40  
 <211> 586  
 <212> DNA  
 <213> Homo Sapien

<220>  
 <221> variation  
 <222> 14, 21, 23, 479, 498, 534, 584  
 <223> N can be any nucleotide

<400> 40						
catgctcgag	cggncgccag					
ngngatggat	atctgcagaa					
tctgcacctt	ctatgtattt	60				
gcttctcagc	aggagagata					
tttatcctca	ctgccatgtc	ctatgaccgc	tatgtagcca	120		
tctgctgtcc	cctgaactac	gaggtgattc	atgtgcccac	tagagcttga	gaagcactgc	180
ttggaagccc	cttctgccat	caatgaggct	gcacagagta	cttctcctcg	gcagccatgg	240
cttatgaccg	ctgccttgcc	atctgctatc	ctttacacta	cggagccatc	atgagtagcc	300
tgctctcagc	gcagctggcc	ctgggctcct	gggtctgtgg	tttctgtggc	attgcagtgc	360
ccacagccct	catcagtggc	ctgtccttct	gtggcccccg	tgccatcaac	cacttcttct	420
gtgacattgc	accctggatt	gccctggcct	gcaccaacac	acaggcagta	gaagcttgng	480
gcctttgtga	attgctgntg	tgggtatccc	gagttcatgc	ctcatcacc	ttgncttcta	540
tgtgtacatc	atcaggcacc	attctcagga	tcccttctgc	aagngg		586

<210> 41  
 <211> 857  
 <212> DNA  
 <213> Homo Sapien

<220>  
 <221> variation  
 <222> 5-12, 16-18, 22, 27, 32, 42, 60, 99, 159, 171, 202, 212, 240, 242, 251, 306, 330, 371, 568, 669, 750, 802, 840, 856  
 <223> N can be any nucleotide

<400> 41						
atggnnnnnn	nnntnnnaa	anttttnccc	antttgggcc	gnccccccct	tctttaaggn	60
aatgggcccc	ttgggccctt	cccgggaaggc	ccggggggcnc	ccggccccaa	aggtttgggt	120
tgggaaatgg	ggggaattta	aattcctttg	ggccaaggna	aaaattttcc	ngccccctt	180
tttttccctt	tttggttttt	anccggggga	angggggggt	tgattaatta	atcggaagn	240
tnggggggaa	nttttttaaa	aaaaaccttg	ggggaagggt	ccaacccaac	aaggttgggt	300
ttccanggga	ccgttgggac	caggcttttn	gaatcaagaa	tcccaaaggg	cattcttttg	360
gattaaggaa	nggtgccggg	accggtgaaa	gggaaaaaac	tggtggaccc	catacaaaa	420
tgagaaccac	ggtgagatgc	cgaggagcac	gtggagaaag	gctttgcttc	cggccactgg	480
cagaggggat	cctgaggatg	gtgcttgatg	atgtacacat	aggagagaaa	gggtgatgag	540
gcatgaactc	aggataacca	caacagcnat	cacaaaggcc	acaaagctct	actgcctgtg	600
tggtgggtgc	aggccagggc	aatccagggg	tgcaatgtca	caagaaaagaa	agtggttgat	660
ggcacgggng	ggccacagaa	ggacaggcca	cttgatgaag	ggcttgtggg	cactgcaatg	720
gccacgaaac	caccagaccc	aggaacccan	ggccaagctt	gcgcctgaag	agcaaggcta	780
ctcatgaatg	gcttccgtag	tngtaaagga	tagcaagatg	gcaaaggcaa	gccggtcatn	840
aagccatggc	ttgcng					857

<210> 42

<211> 620  
 <212> DNA  
 <213> Homo Sapien

<220>  
 <221> variation  
 <222> 2-4, 8-10, 43, 611, 613  
 <223> N can be any nucleotide

<400> 42  
 gnnnttannn cattgcgccc tctagatgca tgctcgagcg gcncgccagt gtgatggata 60  
 tctgcagaat tcgcccttgt tgcgcaagga gtagatgaac ggattcaggg caaggggagtg 120  
 ctgaggagat agacgggtat acactgggca caagtccatg agtaatcaag gcctgttatt 180  
 taaaaaaaaa aaaaaaaaaaag cttgaacaat atagaatccc attaccaga gatagactgg 240  
 atgggtgaatt aaactttctg gtgaatttct ttccagatat ctctctatgc atatgtatac 300  
 acaagcaatt tttggaagaa aagatacttt ataaggataa gcctgaaaac tgcaacgaat 360  
 gcaatgtgga gaatgaaggc aagatgtggc gaagaagggc accacaatct ggtggctgag 420  
 agagtgaac tgtcactaca gctaaaagga gagctggaga agctggtgag gacagtaaga 480  
 gatgaatctg gtttaagaca cgctgagctc caaatgccat ggctccccta ggttgacctc 540  
 tcagatgtaa atcttaagct caaagcaggc ggatgagaaa tcacatttca tagtccctgc 600  
 acagacggct ntnttgagct 620

<210> 43  
 <211> 608  
 <212> DNA  
 <213> Homo Sapien

<220>  
 <221> variation  
 <222> 2-5, 10, 22-24, 27, 592  
 <223> N can be any nucleotide

<400> 43  
 gnnnttaan tcattgcccc gnnngangca tgctcgagcg gccgccagtg tgatggatat 60  
 ctgcagaatt cgcccttccc atgtatttgc ttctcagcaa cttgtccttc tctgacctct 120  
 gttctcttc cgtgaccatt cccaagtgt tacagaacat gcagaaccag gacctggaga 180  
 tcccctatgc ggactgctg acccaaattg acttcttctt gttatttggg gacctggaga 240  
 gttctctct tgtggccatg gcctatgacc gctatgtggc catctgcttc cccctgcact 300  
 acaccgccat catgagcccc atgctctgtc tcgccctggg ggcgctgtcc tgggtgctga 360  
 ccaccttcca tgccatgtta cacactttac tcattggccag gttgtgtttt tgtgcagaca 420  
 atgtgatccc ccactttttc tgtgatatgt ctgctctgct gaagctggcc ttctctgaca 480  
 ctcgagttaa tgaatgggtg atatttatca tgggagggct cattcttgca tccattccta 540  
 ctcatccttg ggtcctatgc aagaaatgct cctcatcttc aaggcccttc tntaagggtg 600  
 tctgcaag 608

<210> 44  
 <211> 608  
 <212> DNA  
 <213> Homo Sapien

<220>  
 <221> variation  
 <222> 2-5, 7, 9, 12, 20, 24, 26, 29, 31-32, 480, 530, 557, 579  
 <223> N can be any nucleotide

<400> 44  
 gnnntnant cntgccctgn ccncngcnc nngcgccgcg gcggatggat atctgcagaa 60  
 ttgcgccctg ttactaagag tatagatgaa cggattcagg gcaagggagt gctgaggaga 120  
 tagacgggta tacactgggc acaagtccat gagtaatcaa ggctgttat ttaaaaaaaaa 180  
 aaaaaaagct tgaacaatat agaatcccat taccagaga tagactggat ggtgaattaa 240  
 actttctggt gaatttcttt ccagatatct ctctatgcat gtgtatacac aagcaatttt 300

tggaagaaaa	gatactttat	aaggataagc	ctgaaaactg	caacgaatgc	aatgtggaga	360
atgaaggcaa	gatgtggcga	agaagggcac	cacaatctgg	tggctgagag	agtgcaactg	420
tcactacagc	taaaaggaga	gctggagaag	ctggtgagga	cagtaagaga	tgaatctggn	480
ttaagacacg	ctgagtctca	gatgccatgg	cttccttagg	ttgcctcttn	cagatgtaaa	540
tcttaagctc	aaagcangtg	gatgagaaat	acacatttna	tagtcacctg	cacagacggt	600
tttttgat						608

&lt;210&gt; 45

&lt;211&gt; 602

&lt;212&gt; DNA

&lt;213&gt; Homo Sapien

&lt;220&gt;

&lt;221&gt; variation

&lt;222&gt; 14, 16, 19, 21, 23-24, 27, 38, 40, 50, 52, 520, 551

&lt;223&gt; N can be any nucleotide

&lt;400&gt; 45

catgccccgt	ccncnagnt	ncnngcnccg	cgcccgcnan	ggatatctgn	anaattcgcc	60
cttcctatgt	atttacttct	ccaacttctc	cttcccatct	ctatcattag	aacccattca	120
tatacacctc	acgaaacaag	ggcgaattcc	agcacactgg	cgcccggtac	tagtggatcc	180
gagctcggta	ccaagcttga	tgcataagctt	gagtattcta	acgcgtcacc	taaatagctt	240
ggcgtaatca	tggtcatagc	tgtttcctgt	gtgaaattgt	tatccgctca	caattccaca	300
caacatacga	gccggaagca	taaagtgtaa	agcctggggg	gcctaataag	tgagctaact	360
cacattaatt	gcgttgcgct	cactgcccgc	tttccagtcg	ggaaacctgt	cgtgccagct	420
gcattaatga	atcggccaac	gcgcggggag	aggcggtttg	cgtattgggc	gctcttcgcg	480
ttctcgctca	ctgactcgct	gcgctcggtc	gttcggctgn	ggcgagcggt	atcagctcac	540
tcaaaggcgg	naatacggtt	atccacaaga	atcaggggga	taacgcaaga	aaagacatgt	600
ga						602

&lt;210&gt; 46

&lt;211&gt; 620

&lt;212&gt; DNA

&lt;213&gt; Homo Sapien

&lt;220&gt;

&lt;221&gt; variation

&lt;222&gt; 2-4, 6, 10

&lt;223&gt; N can be any nucleotide

&lt;400&gt; 46

gnnntnattn	attgcattgg	gccctctaga	tgcattgctg	agcgcccgcc	agtgtgatgg	60
atatctgcag	aattcgccct	tagtgagtag	atgaaagggt	tcagcatggg	ggtcaccaca	120
gtgtacatca	tagccatgac	agtgtccttt	agagtagaac	tattagctga	tgagcataag	180
tagagaccaa	taacggttcc	atagaacagt	gacaccacag	ataggtggga	gccacaagta	240
gagaaggcct	tgcagacacc	cttagaagaa	gggaccttga	ggatggagga	gacaattctt	300
gcataggacc	caaggatgag	taggaatggg	atgacaagaa	tgagccctcc	catgataaac	360
atcaccattt	cattaactcg	agtgtcagag	aaggccagct	tcagcagagc	agacatatca	420
cagaaaagg	gggggatcac	attgtctgca	caaaaacaca	acctggccat	gagtaaagt	480
tgtaacatgg	catggaaggt	ggtcagcacc	caggacagcg	ccaccagggc	gagacagagc	540
atggggctca	tgagggcggt	gtagtgcagg	gggaagcaga	tggccacata	gcggtcatag	600
gccatggcca	caaggaggaa					620

&lt;210&gt; 47

&lt;211&gt; 607

&lt;212&gt; DNA

&lt;213&gt; Homo Sapien

&lt;220&gt;

&lt;221&gt; variation

&lt;222&gt; 2, 572, 578, 594

<223> N can be any nucleotide

<400> 47

cnatgggccc	tctagatgca	tgctcgagcg	gccgccagtg	tgatggatat	ctgcagaatt	60
cgcccttcca	atgtatttgc	ttctcagcaa	cttgctcttc	tctgacctct	gcttctcttc	120
cgtgaccatt	cccaagttgt	tacagaacat	gcagaaccag	gacccatcca	tcccctatgc	180
ggactgcctg	acccaaatgt	acttcttct	gttatttgga	gacctggaga	gcttctctct	240
tgtggccatg	gcctatgacc	gctatgtggc	catctgcttc	cccctgcaact	acaccgccat	300
catgagcccc	atgctctgtc	tcgccctggg	ggcgctgtcc	tgggtgctga	ccaccttcca	360
tgccatgtta	cacactttac	tcattggccag	gttggtgttt	tgtgcagaca	atgtgatccc	420
ccactttttc	tgtgatttgc	ctgctctgct	gaagctggcc	ttccctgaca	ctcgagttaa	480
tgaatgggtg	atatttatca	tgggagggct	cattcttgtc	atcccattcc	tactcaatcc	540
ttgggtctat	gcaagaaatt	gtcttcttca	tnctcaangg	ccctttcttc	taanggtatc	600
ttgcaag						607

<210> 48

<211> 613

<212> DNA

<213> Homo Sapien

<220>

<221> variation

<222> 2-4, 7, 9, 257, 266, 295, 313, 322, 331, 334, 338, 340, 345, 348, 356, 358, 365, 378, 397, 398, 402, 410, 447, 480, 536-537, 557, 563, 576, 580, 584-586, 606, 610-612

<223> N can be any nucleotide

<400> 48

annncntng	gagctccaaa	gcagtggtaa	caacgcagag	tacgccccct	atgtacttac	60
tttggttaag	tccaacctcc	atcctccttg	gccttttgat	tcaattgac	actccttct	120
cctcaaaaaca	ccttggttcac	tcactcttct	tcagtctct	ttgtggattc	ttcctcattt	180
atttgacctc	ttgctgggtga	accctttctat	atacactctc	cgtaacaaaag	agggcgctact	240
tctgtcgtct	tgagcgnact	gatggnaccc	agcttttggt	cccttttagtg	agggntaatt	300
gcgcgcttgg	cgnaatcatg	gncatagctg	nttinctgn	gaaantgnta	tttcgntnac	360
aattncacac	aacatacnag	ccggggagcat	aaaggggnnaa	gncctggggg	gcctaattgag	420
ggagcttact	cacaataatt	gggggtgngcc	cactggcccc	ttttcaggcg	ggaaaacctn	480
gcggggccag	ctggaataaa	tgaatcgggc	cacgcgcggg	ggaggagggc	gggtttnngga	540
attgggcgct	tttccnttt	ctnggttaat	ggactnggtg	ggcnngtcc	gttcggttgg	600
ggggancggn	nnt					613

<210> 49

<211> 593

<212> DNA

<213> Homo Sapien

<220>

<221> variation

<222> 177, 298, 506, 515, 578, 582

<223> N can be any nucleotide

<400> 49

aacgcagagt	accgcccact	acgtaatctg	tacatgaaag	ggtttaaaag	agactgggaa	60
gagaggaatt	ggcaagatca	agcagaggca	actccttcta	gtccttctag	taccgcaagg	120
ggcagataaa	tggaaatggg	aacacctaga	ggaaagtata	cttgccaaaa	gcaaatncat	180
aggggggagt	acattatcgg	gttgaaaaaa	gtattccatg	cagataaaaa	ccaaaagcaa	240
atacatcggg	ggcgtaactc	tgtcgtcttt	gagcgtaactg	atggtaccca	gcttttgntc	300
ctttagttag	gggttaattgc	gcgcttggcg	taatcatggg	catagctggg	ttctgtgtga	360
aattgtttat	ccgctcacaa	ttcacacaac	atacgagccc	gggagcataa	agtgtaaagc	420
ctgggggtgc	taatgagtgg	agcttactta	cattaaattg	cgttgcgctc	actggccgct	480
tttccaagtc	gggaaacctg	tcgtgncagc	ttcantaatg	aatcggccaa	cgccgcgggg	540
agaggcgggg	tgcgtattgg	gcgctcttcc	gcttcttngt	tnactgactt	cgg	593

<210> 50  
 <211> 624  
 <212> DNA  
 <213> Homo Sapien

<220>  
 <221> variation  
 <222> 2-4, 11, 16, 20, 22  
 <223> N can be any nucleotide

<400> 50  
 gnnntttaac nccgngnctn cnagcagtgg aacaacgcag agtacgcccc cgatgtactt 60  
 tctttttcag tctcaagtct tctctttctc caaagatttt gtcttttcta ctacctgagc 120  
 taccaaattcc cttgtcatca atttcaataa ctgtattctc ttcattcattt caacttcaaa 180  
 cgtgtcatct cagaacaagc ttcattgttac ttccaatttt atccttcttg tttgttgatt 240  
 ccaagaattc cagtcccatc taggcccgcg atgcattgtt cctgccaccc ttttcataatc 300  
 ctcaattccc ttgtatcatc actttccttt tatatagcac agattccatg attcataaca 360  
 ataattatgt ttttttttgc atgtgtctctt aatttccctt cttgtctcta ttatcttcta 420  
 tcatactttt ctggaaacac taattctggg gaaatatact ctttgtggac tttgcaactta 480  
 tgctcagtca gctgaagatg atggctagac aaatactcac aatcatgctg actggcccaa 540  
 tttatagtca tgaccaccga ttacaaaccc cttcatttat tctccgcaac aggggcgtct 600  
 tctgcgcttg agcgtccggg gggg 624

<210> 51  
 <211> 584  
 <212> DNA  
 <213> Homo Sapien

<220>  
 <221> variation  
 <222> 584  
 <223> N can be any nucleotide

<400> 51  
 gcagtggtaa caacgcagag tacgcccgtt acggaggctg taaataaagg ggttgaggaa 60  
 gtaaagtact tcacagtact ggagcacaca gcatgtgaat ttcagccaaa ggacaaatgc 120  
 ctccaaaaaa agttaattca cagtgcagca gggcgaggca cttgtcttat tcgctgggtc 180  
 tcacattgac cctgaaagga cttttttttg ttaatcccat tttcacagat gggaaaggga 240  
 ctctgtatgg ttgtcacttt tatccaaagt ctcatagcca gtaagaagct gccctcaaag 300  
 tccctaccct gtcttccatt cgactattct gaggttcaga cccagaaacc ccatacctct 360  
 gccttatatt ttaatgaaaa gtatgtctcc aggtttatgt ggagaataac caagacctca 420  
 gaaacattta gtgaaaatca gagctagaag gaatctgttt ttttgcgagt tcagagaaac 480  
 tgacttggat aagacatcaa agttgtcttg tgcagcaaat tctcctccgg cacatagtag 540  
 gcactctgat aaattcaaaa aggcttctaa gaagaggcag aagn 584

<210> 52  
 <211> 613  
 <212> DNA  
 <213> Homo Sapien

<220>  
 <221> variation  
 <222> 6, 10-12, 16-17, 20, 553, 594, 607, 613  
 <223> N can be any nucleotide

<400> 52  
 gtgaanccan nntaannccn attggagctc caagcagtgg taacaacgca gagtacgccc 60  
 ccatgtagt ttcttcttct cttctctccc tcttctcttc cttcttctct ttctctctct 120  
 ctccctctcc ctctccctct cctctctctc ctctcttctt ttctctctcc tctctctccc 180  
 cccaatccgt tcatgacttc ttcttctctc tcttctctct ctttcttctt ttcttctttt 240

tctctaagca	ggatcctggg	ctgttcaaac	cagagagctg	taagtctttt	ctttcccat	300
tactgttaga	tccgttgaa	cggctccaga	aaccaaaca	gttaaccctt	gcatttacac	360
gtttcgtaac	gggcgtactt	ctgtcgtctt	gagcgtactg	atggtagcca	gctttgttc	420
cctttagtga	gggttaattg	cgcgcttggc	gtaatcatgg	tcatactgtg	ttcctgtggg	480
aaattgttat	ccgctcaca	ttccacaca	catacgagcc	gggagcataa	aagtgtaaag	540
cctggggtgc	ctnatgagtg	agctaactca	cattaattgc	gttgcgctta	ctgnccgttt	600
tcagtcngga	aan					613

<210> 53  
 <211> 611  
 <212> DNA  
 <213> Homo Sapien

<220>  
 <221> variation  
 <222> 2, 4-5, 7-9, 14-15, 601  
 <223> N can be any nucleotide

<400> 53	
tnanncnnt	taanncccat
cgatgtactt	gcttcttctt
tatgaccgct	atgtggccat
actcgtgcca	aactggctgc
accacatggc	tcttcagttt
gacagcccac	ctgtgctgag
atcgtcggaa	ccattctggt
cgcattgctg	ctgccatcct
acatgttcct	cacacctcct
ttccggccta	aatcaaataa
ntatgactcc	a
	60
	120
	180
	240
	300
	360
	420
	480
	540
	600
	611

<210> 54  
 <211> 606  
 <212> DNA  
 <213> Homo Sapien

<220>  
 <221> variation  
 <222> 4, 483, 509-510, 606  
 <223> N can be any nucleotide

<400> 54	
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tttcagactt	gttctttggg
ttacagagcg	ccttttttgg
ttgcattact	tggttatcat
gttgaggat	ttctgcactc
gacctcaatg	tcattgatca
accgataccc	atgttattgg
ggnttctgct	cttactcctc
aaagggaggt	gaaaagccct
tttgn	
	60
	120
	180
	240
	300
	360
	420
	480
	540
	600
	606

<210> 55  
 <211> 630  
 <212> DNA  
 <213> Homo Sapien

<220>  
 <221> variation

<222> 4-5, 8-9, 12, 16, 19, 295, 298, 321, 472, 481, 573, 617

<223> N can be any nucleotide

<400> 55

ttannccnnt	tnaatncnnt	tggagctcca	aagcagtggg	aacaacgcag	agtacgcccc	60
caatgtactt	gcttcttctt	ttttggggct	gctgagtgtc	gcctcctggc	caccatggca	120
tatgaccgct	acgtggccat	ctgtgacccc	ttgcactacc	cagtcacat	gggccacata	180
tcctgtgccc	agctggcaag	ctgcctcttg	gttctcaggg	ttttcagtgg	ccactgtgca	240
aaccacatgg	attttcagtt	tccctttttg	tggccccaac	aggggtgaacc	acttntntng	300
tgacagccct	cctgttattg	nactgggtctg	tgctgacacc	tctgtgtttt	gaactggagg	360
ctcttgacag	ccactgccta	attcattctc	tttcttttct	tgctgaccc	gggatcttat	420
ttcgcatctc	cttcactatc	tttaaggatg	ccgtcagctg	aggggaaaca	tnagcattct	480
ncacctgttc	cgccacctc	ttgggtggct	ctctcttcta	tagcactggc	aatccttaac	540
gtattttccg	accccaattc	aagtgccttt	ttntgagaag	caaagaaact	ggttgtcact	600
tttttttcac	aaggggngac	ttccaatggt				630

<210> 56

<211> 631

<212> DNA

<213> Homo Sapien

<220>

<221> variation

<222> 2, 4, 8-10, 493, 582

<223> N can be any nucleotide

<400> 56

gngntttnnn	ccatggagct	ccaaagcagt	ggtaacaacg	cagagtagcg	ccccatgta	60
ctttcttctt	ctttggagtg	gctgaatgct	tcctcctggc	taccatggca	tatgaccgct	120
atgtggccat	ctgcagtccc	ttgcactacc	cagtcacat	gaaccaaagg	actcgtgcca	180
aactggctgc	tacctcctgg	ttcccaggct	ttcctgtagc	tactgtgcag	accacatggc	240
tcttcagttt	tccattctgt	ggcaccaaca	aggtgaacca	cttcttctgt	gacagccccc	300
ctgtgctgag	gctggtctgt	gcagacacag	cactctttga	gatctacgcc	atcgtcggaa	360
ccattctggt	ggatcatgat	ccctgcttgc	tgatcttgtg	ttcctatact	cacattgctg	420
ctgccatcct	caagggtccc	tcagctaaag	ggaagaataa	agccttttct	acatgttctt	480
cacacctcct	tgntgtctct	cttttctata	tatcataaag	cctcacctac	ttccggccta	540
aatcaaataa	ttcacctgag	ggcaagaagc	tgctatcatt	gncctacact	gttatgactc	600
catgttgaac	cccataattt	attcattcag	c			631

<210> 57

<211> 637

<212> DNA

<213> Homo Sapien

<220>

<221> variation

<222> 5-6, 76, 82, 92, 106, 122, 125, 142-143, 190, 214, 223, 244, 247, 259, 283, 290, 320, 402, 416, 455, 470, 529, 558, 561, 607, 618, 620, 630

<223> N can be any nucleotide

<400> 57

ttatnnccat	tggagctcca	aagcagtggg	aacaaccgca	gagtacgccc	cccatgtatt	60
ttctttttct	tggggnagct	gnatgcttcc	tnctggctac	catggnatat	gaccggctat	120
gnggncatct	gcagtcctct	gnnctcccag	tcattatgaa	ccaaaggaca	cgggccaaac	180
tggctgggtgn	ttcctgggtc	ccaagctttc	ctgnagctac	tgngcaagac	cacaatggct	240
cttnagnttt	ccattctgng	gcaccaacaa	ggtgaaccac	ttntttctgn	gacagccggc	300
tgtgctgaaa	gctggtctgn	tgcaagacac	agcactgttt	gagatctacg	ccatcgctcg	360
aaccattctg	gtgggtcaatg	aaccctgct	tgctgatctt	gngttcctat	actcgnattg	420
gtgctgctat	ccctcaagaa	cccataagc	taaangggaa	gcaataaagn	cctttctcta	480
cgtgctcctt	aacacctccc	ttggtggcct	ctcttttcta	atataatcnt	ctaagcctca	540
acctacttct	tgggcctnaa	ntcaaataaa	ttcttctgga	gaggcaagaa	ggtgggtattc	600

atttatncta cactggtngn gactccatgn tggaact

637

<210> 58  
 <211> 621  
 <212> DNA  
 <213> Homo Sapien

<220>  
 <221> variation  
 <222> 3, 6, 9, 16, 19, 507, 597, 611  
 <223> N can be any nucleotide

<400> 58  
 gtnatncnt ttaatncnt tggagctcca agcagtggtta acaacgcaga gtacgcccgt 60  
 tcctcagaca gtatatgaat ggggttaaaaa tgggccagag cagatgcagg aagatcaaatt 120  
 aggaggctac tgcagtagag tcaaacttag ggctgatggt ttcttgggat gcatagtaatt 180  
 aggtagatag agaaagtctt taggaggttag aatggacagg acttcacaat gcattaaatg 240  
 tagggagaaa aaaaatgatt cctgggtttc tagcttgagc tagtagggat agtggttagaa 300  
 ttactgata tggaaaactg gaggaataag agtttggaag agaaagatgg caagttaaatt 360  
 acctgtggga aatataatca cagacactaa ataggcagct gtgtgggtgg caaaggagag 420  
 ccatgggcta ggaacatata gtgggattcc ctggcatgtc attgggttact gaagtcagag 480  
 tgtatgagac agcctaagga gagaatncac acaggagaag aaagaactaa acattcagtg 540  
 gctggccaga ggatgagaaa cccaagagat tggactgttt aggagcaaca gtgttgngaa 600  
 aaggagaaa nggttgaaat t 621

<210> 59  
 <211> 631  
 <212> DNA  
 <213> Homo Sapien

<220>  
 <221> variation  
 <222> 3, 8, 9, 11, 29  
 <223> N can be any nucleotide

<400> 59  
 ggntttannc nctggagctc caaagcagng gtaacaacgc agagtacgcc cattgcgtag 60  
 cgtgtacata aaggggttgg agctgaagga ggagataaag aagaagacag ccagaacctt 120  
 gtccctctgtc ggagatcgca gggatcttgg gccgtagata ggtataagca aagggtgcat 180  
 agtagaaagt cactacagtg aggtgggtgc tgcaggtcga ataggccttc ttccctccctt 240  
 ctgcagagtg catgtggttag acagcaagga gaatccggcc atagggaacat gcaatacaaa 300  
 tgaagggaaa cacaagaaaa atgggtggtgc tcaaaaacac cgtgcactca tagaccaggg 360  
 tatccgtgca ggctagggtc aacatagctg gaacatcaca gaaaaaatga ttgatggctc 420  
 tggacttgca atatgggata cggagtgcac ataccgtgtg agcacaagag ttgatggagc 480  
 ctatcatcca agatcctgtt atcatcagtg cacacactct ttttctcata cggatgagat 540  
 agtggagagg aaagcaata gccacataac gatcataggc cattgatgtc aggagcagcg 600  
 cttctgcacc tgctaaagtc aggaagaaga t 631

<210> 60  
 <211> 620  
 <212> DNA  
 <213> Homo Sapien

<220>  
 <221> variation  
 <222> 6, 10-11, 15, 18  
 <223> N can be any nucleotide

<400> 60  
 tgttantcen ntttncncc attggagctc ccaagcagtg gtaacaacgc agagtacgcc 60  
 ctccctgttt ctgagagtgat agatgaaggg gttataggag ataaagatca gggcaatatg 120

taggacaagg	acacagacac	tgacaacaaa	gttgattatc	tcattgacag	tgggtgtctgt	180
gcaggccagc	ttcagcaggg	gtctcacatc	acagaagaag	tgggagatga	caaagtcac	240
acaaaagggc	aggccaaaca	tagatgttac	ttggacaata	gccatgccc	ggccaatcct	300
cagtgaacca	gatcccagtc	agacacaagc	cctcttacct	atgaataccg	taaggggttg	360
cagaagacca	catagcaatc	atatcccatg	gctatgagaa	gaaagcagtt	gttgatgcca	420
aaagtcacat	agaagagctg	agtgcacacg	ccttgcatga	caataagcta	gtgaggattc	480
aagaggcgag	aaagcatatg	gggagtaatg	gccaccatgt	agcagggtctc	agagatagac	540
agcaatgctt	aggaaaaagt	acatggggccg	tacttctgtc	gtcttgagcg	tactgatggg	600
accagctttt	tgttcccttt					620

<210> 61  
 <211> 612  
 <212> DNA  
 <213> Homo Sapien

<220>  
 <221> variation  
 <222> 3, 5-6, 9-10, 20, 25, 37-38  
 <223> N can be any nucleotide

<400> 61	
gtnannccnn	tgtagctccn
cccgatgtac	ttgttcctac
ctatgaccgg	tttgtggcca
cctctgtgga	ctgctgggtc
aatcttaatg	gtagtacggc
tgaacttaat	caggtcatcc
atattttaca	gttgcgctgc
taagataatt	tcttccatac
acctgtgcat	ctcacctctc
cttagtctgc	tgccaccgcg
gggcaccccc	at
	60
aagcngagct	aacaacnnag
atttgaaaac	ttcctcctgt
cctgcactac	atgggtcatta
gacctagagt	gctctgtatt
cacagcctta	gaaatcccc
ttctgatagc	tttcttaatc
tcccctcact	gggacccctt
gggaagtaca	aggcattttc
gtgcaatcct	aggggtgtac
agcctcagtg	atgtacactg
	120
agaacaacgc	agagtacgcc
ccgtgatggc	tgaaccctca
ccttgctaca	actttttctg
acatgggtgat	actcttactc
aggcattttc	aggcattttc
aggggtgtac	aggcattttc
atgtacactg	aggcattttc
	240
agaacaacgc	agagtacgcc
ccgtgatggc	tgaaccctca
ccttgctaca	actttttctg
acatgggtgat	actcttactc
aggcattttc	aggcattttc
aggggtgtac	aggcattttc
atgtacactg	aggcattttc
	300
agaacaacgc	agagtacgcc
ccgtgatggc	tgaaccctca
ccttgctaca	actttttctg
acatgggtgat	actcttactc
aggcattttc	aggcattttc
aggggtgtac	aggcattttc
atgtacactg	aggcattttc
	360
agaacaacgc	agagtacgcc
ccgtgatggc	tgaaccctca
ccttgctaca	actttttctg
acatgggtgat	actcttactc
aggcattttc	aggcattttc
aggggtgtac	aggcattttc
atgtacactg	aggcattttc
	420
agaacaacgc	agagtacgcc
ccgtgatggc	tgaaccctca
ccttgctaca	actttttctg
acatgggtgat	actcttactc
aggcattttc	aggcattttc
aggggtgtac	aggcattttc
atgtacactg	aggcattttc
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agaacaacgc	agagtacgcc
ccgtgatggc	tgaaccctca
ccttgctaca	actttttctg
acatgggtgat	actcttactc
aggcattttc	aggcattttc
aggggtgtac	aggcattttc
atgtacactg	aggcattttc
	540
agaacaacgc	agagtacgcc
ccgtgatggc	tgaaccctca
ccttgctaca	actttttctg
acatgggtgat	actcttactc
aggcattttc	aggcattttc
aggggtgtac	aggcattttc
atgtacactg	aggcattttc
	600
agaacaacgc	agagtacgcc
ccgtgatggc	tgaaccctca
ccttgctaca	actttttctg
acatgggtgat	actcttactc
aggcattttc	aggcattttc
aggggtgtac	aggcattttc
atgtacactg	aggcattttc
	612

<210> 62  
 <211> 628  
 <212> DNA  
 <213> Homo Sapien

<220>  
 <221> variation  
 <222> 2-8, 13, 19, 22, 32, 35-41, 49  
 <223> N can be any nucleotide

<400> 62	
gnnnnnnnat	ttnatgccnt
agagtacgcc	ccctatgtat
cccaccacta	actaaagtag
tgttacaaac	ataacatcct
gggatctagg	aattcgtagg
tctaggcaac	aatgaattaa
gatcacaggg	aagagggtaa
aaagagaggt	gccaccctct
ctctgaggaa	caagggggcg
tgtcccttta	gtgaggggta
tgtgaaattg	ttatccgctc
	60
tnttgattcc	cnttnnnnnn
gatccaaata	ttaaaataaa
acttctctat	taagaagcat
caaagccact	caatcaaata
gccccaaaat	gattattacc
ctaccatttg	gtactgggtac
ctagcagagc	tgccagaact
tgtaagtagc	aaacaaccct
gtcttgagcg	tactgatggg
atgggtcatag	ctgtttcctg
	120
ncaagcagng	gtaacaacgc
taagaagcat	gtgagatact
ctccagggaa	ctccagggaa
gattattacc	tggtggagaa
gagggttgag	cagggttgag
cgggctttca	cagggttgag
ctcatgtaca	ctcatgtaca
accagctttt	accagctttt
accagctttt	accagctttt
accagctttt	accagctttt
accagctttt	accagctttt
	180
gtaacaacgc	gtaacaacgc
gtgagatact	gtgagatact
ctccagggaa	ctccagggaa
tggtggagaa	tggtggagaa
cagggttgag	cagggttgag
cagggttgag	cagggttgag
ctcatgtaca	ctcatgtaca
accagctttt	accagctttt
accagctttt	accagctttt
accagctttt	accagctttt
accagctttt	accagctttt
	240
gtaacaacgc	gtaacaacgc
gtgagatact	gtgagatact
ctccagggaa	ctccagggaa
tggtggagaa	tggtggagaa
cagggttgag	cagggttgag
cagggttgag	cagggttgag
ctcatgtaca	ctcatgtaca
accagctttt	accagctttt
accagctttt	accagctttt
accagctttt	accagctttt
accagctttt	accagctttt
	300
gtaacaacgc	gtaacaacgc
gtgagatact	gtgagatact
ctccagggaa	ctccagggaa
tggtggagaa	tggtggagaa
cagggttgag	cagggttgag
cagggttgag	cagggttgag
ctcatgtaca	ctcatgtaca
accagctttt	accagctttt
accagctttt	accagctttt
accagctttt	accagctttt
accagctttt	accagctttt
	360
gtaacaacgc	gtaacaacgc
gtgagatact	gtgagatact
ctccagggaa	ctccagggaa
tggtggagaa	tggtggagaa
cagggttgag	cagggttgag
cagggttgag	cagggttgag
ctcatgtaca	ctcatgtaca
accagctttt	accagctttt
accagctttt	accagctttt
accagctttt	accagctttt
accagctttt	accagctttt
	420
gtaacaacgc	gtaacaacgc
gtgagatact	gtgagatact
ctccagggaa	ctccagggaa
tggtggagaa	tggtggagaa
cagggttgag	cagggttgag
cagggttgag	cagggttgag
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accagctttt	accagctttt
accagctttt	accagctttt
accagctttt	accagctttt
accagctttt	accagctttt
	480
gtaacaacgc	gtaacaacgc
gtgagatact	gtgagatact
ctccagggaa	ctccagggaa
tggtggagaa	tggtggagaa
cagggttgag	cagggttgag
cagggttgag	cagggttgag
ctcatgtaca	ctcatgtaca
accagctttt	accagctttt
accagctttt	accagctttt
accagctttt	accagctttt
accagctttt	accagctttt
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gtgagatact	gtgagatact
ctccagggaa	ctccagggaa
tggtggagaa	tggtggagaa
cagggttgag	cagggttgag
cagggttgag	cagggttgag
ctcatgtaca	ctcatgtaca
accagctttt	accagctttt
accagctttt	accagctttt
accagctttt	accagctttt
accagctttt	accagctttt
	600
gtaacaacgc	gtaacaacgc
gtgagatact	gtgagatact
ctccagggaa	ctccagggaa
tggtggagaa	tggtggagaa
cagggttgag	cagggttgag
cagggttgag	cagggttgag
ctcatgtaca	ctcatgtaca
accagctttt	accagctttt
accagctttt	accagctttt
accagctttt	accagctttt
accagctttt	accagctttt
	628

<210> 63  
 <211> 627  
 <212> DNA  
 <213> Homo Sapien

&lt;220&gt;

&lt;221&gt; variation

&lt;222&gt; 191, 214, 263, 271, 277, 303, 325, 333, 363, 418, 528, 570, 596, 614

&lt;223&gt; N can be any nucleotide

&lt;400&gt; 63

tgtagctcca	aagcagtgg	aacaacgcag	agtacgccct	cttggttacg	taagggaata	60
gatgatggg	ttcagcatgg	gggtgactac	agtgtacatg	acagtggcca	cacggtccca	120
ctctgctgc	gtcgggacgt	ggcctggaag	tagactgcaa	tgactgtcct	atagaaagag	180
gttcaccaca	nccaggtggg	agccacaggt	gggncacaag	tcccggagcc	tcccagaggc	240
ttgagggcag	ctggagcacg	ggnaagcttg	ntatgggnccc	acaaggaggc	gaggatgagc	300
agnaagggag	tgaccaccac	ttgcnegccc	ctnggtgaag	atgagcagct	tggatgtgg	360
ggntgtcaga	gcacgagagc	ctttaagaga	ggcttggtgg	gtcacagaag	aagtggngc	420
actttgtggg	aaagcacaga	aaggacaagc	gagccatgag	caggatatac	aggagggagt	480
tgtccgtggg	acaccagcca	tgccattcca	accagggctg	cgcacatngc	cggggacatt	540
ctcgtgggat	aagggaaggg	gtgccggatn	ggcacgtatc	agtcataaggc	cttggncgcc	600
agaagacagc	tttnaattta	ccccagg				627

&lt;210&gt; 64

&lt;211&gt; 605

&lt;212&gt; DNA

&lt;213&gt; Homo Sapien

&lt;220&gt;

&lt;221&gt; variation

&lt;222&gt; 5-6, 9, 11, 14, 17, 21-22

&lt;223&gt; N can be any nucleotide

&lt;400&gt; 64

gttanncnt	ntanctncaa	nngaggtaac	aacgcagagt	acgcccccca	tgtatttgct	60
tcttgtccaa	cctgtccttt	gtagagatct	gctacaccac	cgttgtgggtg	cccttgatgc	120
tttccaacat	ttttggggcc	cagaagccca	ttccattggc	tggatgtggg	gcccaaagt	180
tcctctttct	cacacttggt	ggtgctgact	gtttctctct	ggcgatcggtg	gcctatgacc	240
gctatgtggc	catctgccac	cctttgcaat	acccctcatc	atgacctgca	gtctgtgcgt	300
gcagatgctg	ggcggcgctg	tgggcctggc	cctcttctct	tccttgacgc	tcaccgcctt	360
aatcttcacc	ttgcccttct	gcggctaccg	ccaggaaatt	aaccacttcc	tctgcgatgt	420
acctccgtcc	tgcgcctggc	ctgcgctgca	tccgtgttca	ccaggctgcc	tctatgtcgt	480
gagcatcctc	gtgctgaccg	tccccttctt	gctcatctgc	gtctctacag	tggtcatcac	540
ctgtgccatc	ctgagcatcc	gttctgctga	gggcccggac	caggcctttt	caactgctct	600
tccgg						605

&lt;210&gt; 65

&lt;211&gt; 609

&lt;212&gt; DNA

&lt;213&gt; Homo Sapien

&lt;220&gt;

&lt;221&gt; variation

&lt;222&gt; 10, 14-15, 19, 22, 67, 603

&lt;223&gt; N can be any nucleotide

&lt;400&gt; 65

tgtagctecn	aagnngagnt	ancaacgcag	agtacgcccg	cggaatctat	agatgaaagg	60
gtttggngag	tcagaagaag	gaagtacatg	ggagtcataa	cagtgtagga	caatgatggc	120
agcttcttgc	cctcaggtga	attatttgat	ttaggccgga	agtaggtgag	gcttaatgat	180
atatagaaaa	gagagacaac	aaggaggtgt	gaggaacatg	tagaaaaggc	tttattcttc	240
cctttagctg	atgggatctt	gaggatggca	gcagcaatgt	gagtatagga	acacaagatc	300
agcaagcggg	ggatcatgac	caccagaatg	gttccgcacg	tggcgtagat	ctcaaagagt	360
gctgtgtctg	cacagaccag	cctcagcaca	ggtgggctgt	cacagaagaa	gtgggtcacc	420
ttgttgggtg	cacagaatgg	aaaactgaag	agccatgtgg	tctgcacagt	agctacagga	480
aagcctggga	accaggaggt	agcagccagt	ttggcacagag	tcctttgggt	catgatgact	540

gggtaagtgc aagggactgc agatggccac atagccggtc atatgccatt ggtagcccag 600  
gangaagct 609

<210> 66  
<211> 617  
<212> DNA  
<213> Homo Sapien

<220>  
<221> variation  
<222> 6, 20  
<223> N can be any nucleotide

<400> 66  
gttatncctt gttgctcccn agcagaggta acaacgcaga gtacgcccct atttctcaga 60  
tatangatga aggggttcag aaaaagaatg agcaaagaaa atctgggcca ggcgggcatc 120  
aaaagaaata gtcttgtgct caaccagaaa gtctgcaatc attttagggg tagcagaaga 180  
ggcaacacat acgtctataa atgacagggt ggcaagaagc aaatacattg ggggcgtact 240  
tctgtcgtct tgagcgtaact gatggtaccc agcttttgtt cccttttagtg agggttaatt 300  
gcgcgcttgg cgtaatcatg gtcatagctg tttcctgtgt gaaattgtta tccgctcaca 360  
attccacaca acatacgagc cgggagcata aagtgtaaag cctggggtgc ctaatgagtg 420  
agctaactca cattaattgc gttgcgctca ctgcccgtt tcagtcggga aacctgtcgt 480  
gccagctgca ttaatgaatc ggccaacgcg ccggggagag gcggtttgcg tattgggcgc 540  
tcttcgcgtt ctcgctcact gactcgcttg cgctcggtcg ttcgggttgc ggcgagcggg 600  
atcaagctca ctcaaat 617

<210> 67  
<211> 621  
<212> DNA  
<213> Homo Sapien

<220>  
<221> variation  
<222> 10, 17, 28, 277, 286, 370, 373, 422, 513, 527, 536, 545, 548, 550, 558,  
563, 566, 572, 574, 579, 583, 603-604, 609, 621  
<223> N can be any nucleotide

<400> 67  
gggttttact ctgtgcncct ccagcagngg taacaacgca gagtacgccc ttgttgcgaa 60  
gaaataaatg aatgggttta aaatagacgt gaagatggtg tagaatacag caaggacttt 120  
gtcaactgag taactgctga agggccacac atagatgaaa atacacgac caaagaataa 180  
agtgaccaca gtgatgtgag cagtcaatgt ggagtgggcc ttcaccatgc ttacagagga 240  
gcgattccta actgtaataa gtattacagt gtagganaca accaanagga gaaaggaact 300  
cagagaaaga aagccaccat ctgcaactat tagtaggctg acaacataag tgtctatgca 360  
ggctaacttn gtngctagag gaaggtcaca gaaaaaaact atctacctta ttaggaccac 420  
anaatggcag attaacctgt aatgccaaact ggctggtggt atggatgaag cccacaaacc 480  
aggaaatgag gacgagcaca acacatacac agnagctcat gattganatg tagtgnggag 540  
gttttctnctn gctcatancc gtnttngcca tngnaactng gancaccatt ttacttgcag 600  
tgnnggagng aacatgaaat n 621

<210> 68  
<211> 611  
<212> DNA  
<213> Homo Sapien

<220>  
<221> variation  
<222> 5-6, 9-10, 17, 19, 298, 464, 519, 549  
<223> N can be any nucleotide

&lt;400&gt; 68

gttannccnn	tttaatncna	tggagctcca	aagcagtggt	aacaacgcag	agtacgcccc	60
cgatgtactt	gttcctactc	tttgctggat	ttgaaaactt	cctcctgtcc	gtgatggcct	120
atgaccggtt	tgtggccatc	tgtcaccccc	tgcactacat	ggtcattatg	aaccctcacc	180
tctgtggact	gctggttcta	gcatectgga	ccatgagtgc	tctgtattcc	ttgctacaaa	240
tcttaatggg	agtacggctg	tcttctgcac	agccttagaa	atccccact	ttttctgnga	300
acttaatcag	gtcatccaac	ttgcttggtc	tgatagcttt	cttaatcaca	tggtgatata	360
ttttacagtt	gcgctgctgg	gtggagggtc	cctcactggg	atcctttact	cttactctaa	420
gataatttct	tccatacatg	caatctcatc	agcttagggg	aagnacaagg	cattttccac	480
ctgtgcattc	cacctttcag	ttgctcctta	ttttatggng	caatctaggg	gtgaccttag	540
ttttgctgnc	accgcgaact	cacacttaag	tgcaacaacc	tcagtgatgt	acactggggg	600
caccccatgc	c					611

&lt;210&gt; 69

&lt;211&gt; 625

&lt;212&gt; DNA

&lt;213&gt; Homo Sapien

&lt;220&gt;

&lt;221&gt; variation

&lt;222&gt; 2, 4-6, 11, 15-16, 40, 42, 45, 47, 52, 61, 64-66, 74-75, 77, 80, 586, 618

&lt;223&gt; N can be any nucleotide

&lt;400&gt; 69

gngnnncgag	nttannccctt	ggactcccag	tagagctacn	angantncgc	cnagcgcgca	60
nttnnnccag	ggtnntnttn	gtatcaccaa	tgaatagaaa	acagacacca	ccttgteccct	120
gcctagcaag	tagctggagc	tgggtcgcaa	gtacacgaaa	agggctgtcc	caaacagcag	180
agtcaccacc	atcagatgcy	aggcacacgt	gttgccaggct	ttccatcggc	cctctgctga	240
agggatcttc	aggaccgcag	acactatgta	accataggag	ataaggaggt	ggaggaacga	300
tggtcctccg	acggtgacca	ccacgaggaa	attcaccact	tgactgagga	agggtgtcaga	360
gcaagacaga	gccaggactg	gtgggagggtt	gcagaagaag	tggttgatga	tggtgggtcc	420
gcaaaagtga	agcctaaata	tggagctggc	ctggatcagg	gagctcagga	agccaccaac	480
atatgccccca	accaccatgc	gtgtacagag	gccctgggtc	atgatagtgg	ggtanagaag	540
ggggctggag	atggcttgca	tatcggtcgt	atgccatagc	agtcangagg	aggcactcaa	600
gacagaccca	tgccgacnaa	gaaat				625

&lt;210&gt; 70

&lt;211&gt; 626

&lt;212&gt; DNA

&lt;213&gt; Homo Sapien

&lt;220&gt;

&lt;221&gt; variation

&lt;222&gt; 2-5, 17-18, 24, 34, 42, 584

&lt;223&gt; N can be any nucleotide

&lt;400&gt; 70

gnnnnntttta	ccccgnggc	acanagcagt	ggtnacaacg	cncgagtacg	ccccctatgt	60
attttttcct	attctggaca	cgctactcct	gaccgtgatg	gcctatgacc	ggtttgtggc	120
tgtctgccac	cctctgcact	atatgatcat	catgaacccc	cacctctgtg	gcctcctggg	180
ttttgtcacc	tggctcattg	gtgtcatgac	atccctcttc	catatttctc	tgatgatgca	240
tctaattcttc	tgtaaagatt	ttgaaattcc	acattttttc	tgcaactga	cgtacatcct	300
ccagctggcc	tgctctgata	ccttcttgaa	cagcacgttg	atatacttta	tgacgggtgt	360
gctgggcgtt	tttccccctc	ttgggatcat	tttctcttat	tcacgaattg	cttcacccat	420
aaggaagatg	tcctcatctg	ggggaaaaca	aatagcactt	tccacctgtg	gggtctacct	480
ctccgtcggt	tctttatttt	atgggacagg	cattgggggc	cacttcactt	ctgcgggtgac	540
tcacccttcc	cagaaaatct	ccgtggcctc	ggtgatgtca	ctgnggtcac	ccccatggtg	600
accctttcat	ttacaccctt	agcaag				626

&lt;210&gt; 71

<211> 633  
 <212> DNA  
 <213> Homo Sapien

<220>

<221> variation

<222> 2-10, 4, 7, 10-11, 33, 35, 39, 50, 57, 60, 61-62, 65, 84-85, 441, 615, 617, 632

<223> N can be any nucleotide

<400> 71

gnnnnnnnnn	gttnatnccn	nttttaatgc	cantngagnt	aacaacgcan	gagtacnccn	60
nngngtacgc	ccagggttca	accnntgaat	agaaaaacaga	caccaccttg	tccctgccta	120
gcaagtagct	ggagctgggt	cgcaagtaca	cgaaaagggc	tgtcccaaac	agcagagtca	180
ccaccatcag	atgcgaggca	cacgtgttgc	aggctttcca	tcgccctctg	ctgaagggat	240
cttcaggacc	gcagacacta	tgtaaccata	ggagataagg	agttggagga	acgatgttcc	300
tccgacgggt	accaccacga	ggaaattcac	cacttgactg	aggaaggtgt	cagagcaaga	360
cagagccagg	actggtgggg	aggttgcaag	aagaagtggg	tgatgattgt	tgggtcccg	420
aaaagtgaag	gcctaaatat	ngagctggcc	tggatcaggg	gagctcagga	agccacaaca	480
tatgcccaca	ccaccatgcg	tgtacagagg	ccctgggtca	tgatagtggg	ggtnagagaag	540
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gacagaccca	tgccncnaag	aaaaaaaaact	gnc			633

<210> 72  
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 <212> DNA  
 <213> Homo Sapien

<220>

<221> variation

<222> 2-11, 14-17, 19-20, 22, 28, 42-43, 45, 51, 76, 82-83, 85, 101, 106, 110, 112-114, 117, 119, 135, 139, 434, 507, 520, 614

<223> N can be any nucleotide

<400> 72

gnnnnnnnnn	nttnnnncnn	tnactccngc	agtggttaaca	annantacgc	ncagcgcgca	60
gttaaccctc	actaanggta	anntnagctg	gaacacatca	ntacgntcan	gnnngcncna	120
tgaccgggtt	gtggncatnt	gtcaccacct	gcactacatg	ggtcattatg	aaccctcacc	180
tctgtggact	gctggttcta	gcatecttga	ccatgagtgc	tctgtattcc	ttgctacaaa	240
tcttaatggg	agtacggctg	tccttctgca	cagccttaga	aatccccac	tttttctgtg	300
aacttaatca	ggcatccaac	ttgcttggtc	tgatagcttt	cttaatcaca	tggtgatata	360
ttttacaggt	tgcgctgctg	gggtggaggc	ccctgactgg	gatcctttac	tcttactcta	420
aagataattt	cttncatata	tgcaatctca	tcagctcaag	gggaagtcaa	ggcatttttc	480
acctgtgcat	ctaccctcca	gttgctnctt	attttatggg	gcaatcctag	gggtgacctt	540
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cccatgctga	accn					614

<210> 73  
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<220>

<221> variation

<222> 3-6, 8-10, 17, 124, 144, 146, 173, 184, 193, 212, 220, 266, 274, 276, 288, 306, 419, 423, 448, 474, 485, 500, 552, 555, 576, 588, 591, 606

<223> N can be any nucleotide

<400> 73

gtnnnnnnnn	ttgattncca	ttggagctcc	aaagcagtgg	taacaacgca	gagtacgccc	60
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ttgnggctgg ctgccaccct ctgnantata tgatcatcat gaacccccac ctntgtggcc 180
tccnggtttt tgnccacctg ctcattggtg tnatgacatn cctcctccat atttctctga 240
tgatgcatct aatcttctgt aaagantttg aaantncaca tttttttntg cgaactgacg 300
tacatnctcc agctggcctg ctctgatacc ttcctgaaca gcacgttgat atactttatg 360
acgggtgtgc tgggcgtttt tccctccttg ggatcatttt cttcttattc acgaattgnt 420
ttnatccata aggaagaatg tcctcatntg ggggaaaaca aataagcact tttncacctg 480
tgggnctcaa cctcttccgn cgtttcttta ttttatgggg acaggcattt ggggtcccac 540
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18

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18

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18

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18

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<223> y = t/u or c

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<222> 4, 7, 10, 13, 20, 23, 26  
<223> N can be any nucleotide

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<222> 1, 2, 8, 12, 15  
<223> y = t or c

<220>  
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<222> 11, 29  
<223> r = a or g

<400> 106  
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<223> N can be any nucleotide

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<400> 107  
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28

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<223> N can be any nucleotide

<220>  
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<222> 3, 23  
<223> y = t or c

<220>  
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<222> 6, 18, 30  
<223> r = a or g

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<222> 11  
<223> k = t or g

<220>  
<221> variation  
<222> 17  
<223> w = t or a

<220>  
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<222> 26  
<223> s = g or c

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32

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 <222> 11  
 <223> k = t or g

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 <222> 5, 16  
 <223> s = g or c

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32

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 <222> 1, 9, 13, 19, 25  
 <223> r = a or g

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 <223> k = t or g

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<220>  
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 <222> 11  
 <223> s = g or c

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27

<210> 111  
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 <213> Homo sapiens

<220>  
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 <222> 7, 11, 16, 18, 21, 209, 231, 258, 259, 266, 267, 269, 282, 287, 289,  
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 590, 596, 597, 601, 602, 610, 618, 622, 633, 635, 648, 649, 650, 652, 654,

661, 666, 688, 690, 692, 698, 705, 713, 720, 724, 726, 731, 732, 736, 771, 788, 790, 795, 801, 802, 807, 811, 817, 829, 836, 840, 846, 849, 850, 855, 859, 870, 872, 874, 877, 878, 886

<223> n = any nucleotide

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ttatctcnnc catnccctc nttctnnc nctattnact cttttctcnc atactntatn 840
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<210> 112

<211> 625

<212> DNA

<213> Homo sapiens

<220>

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<222> 13, 31, 36-37, 40, 45-48, 50, 53-54, 61, 63, 67-68, 70, 473, 512, 523, 526, 535, 542-543, 545, 549, 558, 566, 571, 582, 589, 593-594, 603, 612-614, 616, 621, 623-624

<223> n = any nucleotide

<400> 112

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gtgagttgag ggtggcagca gaactaagg acacccctag gattgcacca taaaataagg 180
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aagcaagttg gatgacctga ttaagttcac agaaaaagt ggggatttct aaggctgtgc 420
agaaggacag ccgtactacc attaagattt gttagcaagga atacagagca ctnatgggtc 480
aggatgccag aaccagcagt cacagagggg gngggtttca tantgnccct gtagngtcag 540
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tantccacca cnnntnttct nannc 625

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<210> 113

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<212> DNA

<213> Homo sapiens

<220>

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<222> 6-7, 30, 113, 128, 137, 142, 150, 157, 174, 297, 310, 313, 335, 354, 356, 377, 382, 385, 389, 393, 421, 429, 431, 433, 435, 438, 440, 442-443, 446, 455, 457, 465, 467, 477, 488, 491, 501-502, 504, 508-509, 515, 522, 525-526, 529-530, 542, 557-559, 561, 564, 565, 568, 577, 579-581, 584, 587-589, 591, 596-603, 607-610, 612-613

<223> n = any nucleotide

<400> 113

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tatcattnac aagctgnctt tngcagatgn actttgnttt ctcattaggg tgcncagagt 180
acttcctcct ggcagccatg gcttatgacc gctgtcttgc catctgctat cctttacact 240
acggagccat catgagtagc ctgctctcag cgcagctggc cctgggctcc tgggtgngtg 300
gtttcgcgen cantgcagcg cccacagccc tcagnagcgg tcttgcctct ctgngncccc 360
cgtgccatta accactnctt tngcngcant gcnccctgca ttgtcttgtc ctgcccacca 420
nacagcagna nancntgngn cnnttngatc gctgntncgc tctcngntct cactccttcc 480
caccttttcc ntcgcattcc nntntccnnc tcgcnctcct gncnntcnn tctcctcttc 540
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<210> 114

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<212> DNA

<213> Homo sapiens

<220>

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<222> 2, 12-13, 20, 23, 188, 375, 399, 402, 416, 443, 460, 472, 474-475, 480, 484, 487-488, 502, 505, 522-523, 529, 532, 537-538, 546, 553, 555, 557, 561, 564-565, 573, 575, 577, 581, 583, 586, 591, 594, 617, 634, 636, 643

<223> n = any nucleotide

<400> 114

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catagaagag accaaagaac ttgcccctcc cttgggcata cggatttttg ggctggaggt 180
agacagcnat gactgagctg tagaagaggg tgaccacagt gagatgggag gaggaggtcc 240
caaaggcctt tctccatgct gtggcagagt taatcctcag cactgcctgg gcagtggctc 300
cataagaggc aaggatgagg ctgagaggca caaccacgaa gatgacactg gacacagcca 360
actggatttc attgnaggag gcatctccac aggagagtnc gnatcagaga tgggancctc 420
acataaaaaa gtcattctatc tgntggtggg gacagaatgn ccattgtggag gntnnatgtn 480
cgtntcnnac ctcttatttt tnttncctct ttcttctcgt cnntccctnt tntcccnct 540
cgccanttcc atnncntct ntcnntttt ttntntnacc ntntntcat ntctctctt 600
tattctcttt ctcttgnctc tcccttctct ctctnttctc canctctccc g 651
```

<210> 115

<211> 850

<212> DNA

<213> Homo sapiens

<220>

<221> variation

<222> 3, 15, 279, 288, 292, 295, 296, 299, 307, 309, 317-319, 322, 326-327, 329, 335, 340, 343, 345-346, 354, 362, 367-368, 377, 380-382, 386, 391, 394, 396, 399-400, 410, 412, 415-416, 418, 433, 436, 442, 444, 451, 455, 466, 468-469, 471, 474, 482, 488, 490, 500, 505, 514, 516, 522, 530, 537, 548, 550, 552, 559, 562-565, 569, 570, 571-573, 576, 581, 592, 597, 603, 605-606, 608, 617, 619, 624, 627, 630, 635-636, 643, 647, 653, 661-663, 667, 673-675, 678, 690, 697-698, 709-711, 720, 724, 727, 731, 736, 746, 760, 768, 771, 783-784, 789, 791, 794, 796, 797, 800-801, 808, 810, 816, 818, 821-822, 832, 836

<223> n = any nucleotide

<400> 115

```
ggntctcggt acaanacttg gccctctaga tgcattgctc agcggccgcc agtgtgatgg 60
```

```

atatctgcag aattcgccct tccaatgtat ttattcctgt tatttgagaga cctggagagc 120
ttcctccttg tggccatggc ctatgaccgc tatgtggcca tctgcttccc cctgcactac 180
accgccatca tgagcccat gctctgtctc gccctgggtg cgctgacctg ggtgctgacc 240
accttccatg ccatgttaca cactttactc atggccagnt tgtgcttntg tncennacna 300
ttgttgntnc cccactnnnc tntgtntna gtctnctctn centnnactg ctctcctct 360
tntccnnga gtectcnggn nncgtngtcg nttncngcnn tcaattgcan tncennentc 420
atcctttctt tanttntcca tntnttcaact natttctctt tatccnctnt ntcnccctcc 480
anctcctnnc tagcttactn tttctgtctc tccngngctc anccctttctn ccataatntc 540
ttctctcncn ttctctctnc tnnnnccenn nnntctctgt ntctctgtctc cntcttnacg 600
tctnnctct tatttantnt ctncnctn tctcngctc cancgngta ccngccctat 660
nnctctctcc gannntgntc atggcatctn cacattngc cctactatnn ncgatctatn 720
ttcncgncat ntattncaca tccacntgca ctctactctn ctctctance nccgtacatc 780
gcnnctacng ntgnctntcn nccgtctctn cggcncnat nntccactt tntctnggtc 840
ccctctccg
850

```

&lt;210&gt; 116

&lt;211&gt; 620

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;220&gt;

&lt;221&gt; variation

&lt;222&gt; 451, 479, 501, 533, 542, 550, 553, 561, 572, 582, 585, 600, 604-605

&lt;223&gt; n = any nucleotide

&lt;400&gt; 116

```

gatgcattgt cgagcgccc cagtgtgatg gatattctgca gaattcgccc ttccaatgta 60
ctttttcctg aagaacctct ctgttttgga tctgtgtctac atctcagtc ctgtgcctaa 120
atccatccgt aactccctga ctgcagaaag ctccatctct tatcttggt gtgtggctca 180
agcctatttt ttctctgct ttgcattctc tgagctggcc ttcttactg tcatgtctta 240
tgaccgctat gttgccattt gccacccct ccaatacaga gccgtgatga catcaggagg 300
gtgctatcag atggcagtc ccaacctggc aagctgtctt tctacgcag ccgtccacac 360
tggcaacatg tttcgggagc acgtttgcag atccaatgtg atccaccagt tcttccgtga 420
catccctcag gtgttgccc tggtttctg ngagggtttc tttgtagagc tttgaccng 480
cctgagcct caatgcttgg ntctgggatg ctttattccc atgatgatct ccnattttcc 540
anattctctn aanggggctc nagaatccct tnaggaccag antcnagcta aaagcctttn 600
ccnnctgct tccccccacg
620

```

&lt;210&gt; 117

&lt;211&gt; 628

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;220&gt;

&lt;221&gt; variation

&lt;222&gt; 5, 9, 403, 505, 552

&lt;223&gt; n = any nucleotide

&lt;400&gt; 117

```

tggcnctcng atgcattgtc gagcgccgc cagtgtgatg gatattctgca gaattcgccc 60
ttccaatgta tttgttctct ttatttgagg acctggagag ctctcctctt gtggccatgg 120
cctatgaccg ctatgtggcc atctgcttcc cctgcacta caccgccatc atgagcccca 180
tgctctgtct cgccctgggt gcgctgtcct ggggtgtgac cacttccac gccatgttac 240
acactttact catggccagg ttgtgttttt gtgcagacaa tgtgatcccc cactttttct 300
gtgatattgt tgctctgtct aagctggcct tctctgacac tcgagttaat gaatgggtga 360
tatttatcat gggagggtc attcttgcat cccattccta ctntactctg gggtctatgc 420
aagaattgtc tctccatcc tcaaggctcc ttcttctaag ggtatctgca aggccttctc 480
tacttgtggc tcccacctg tctgnggtgt cactgggtct atggaaccgt tattggtctc 540
tacttatgct cntcagctaa tagttctact ctaaaggaca ctgcattggc atgatgtaca 600

```

ctgtggtgac ccccatgctg aaccctt

628

<210> 118  
 <211> 783  
 <212> DNA  
 <213> Homo sapiens

&lt;220&gt;

&lt;221&gt; variation

<222> 17, 25, 184, 187-188, 199, 202, 206, 212, 214-215, 223, 227-228, 232, 248, 250, 252-253, 255-256, 261-264, 266, 268, 271, 273, 276, 278, 284, 289, 292, 295-296, 298, 300-302, 306, 310, 315-316, 320-322, 325, 329, 333, 337, 340-341, 346, 349, 355, 369, 371, 373-374, 379-380, 383-384, 387-388, 391, 402, 407, 409, 417, 419-420, 436-437, 441-442, 445, 447-448, 450, 456-458, 461, 469, 472, 477-479, 486-487, 490, 493, 503, 510, 512, 517, 530, 540, 542, 544, 552-553, 565, 572, 587, 595, 597-598, 600, 611, 614, 617-618, 622-623, 625, 634-636, 639, 644-645, 646, 652-653, 663, 665, 668, 673-674, 679, 681, 683, 695-696, 699, 706, 710, 712, 716, 725-726, 731-732, 741, 745, 748-750, 763, 771, 774, 776, 772, 774-775, 777-778, 780, 782

&lt;223&gt; n = any nucleotide

&lt;400&gt; 118

```

gatgatgctc gagcggnccg agtgngatgg atatctgcag aattcgccct tcccatgtat 60
ttgttcttga gcaacctctc ctctctggag atttggtata ccacagcagc agtgcccaaa 120
gcactggcca tctactggg gagaaagacag accatatcat ttacaagctg ccttttgcag 180
atgnacnntg ttttctcant angccntaca gngnncatgt ttncgcnnngc cntgacttat 240
gacgcgcntn cnnccntatc nnnntntnct ntnacncnac ttctcatna tntgnnentn 300
nnttcnctn tggcnctcn nntcnegnc ttncctntgn ncgtctcnc ccttnggcct 360
gcattctcnc ntntcctnn ccnncgncct ntcttctct cntacctnt ttctgtntnn 420
tccctccct ctctgntgc nntcnncn catctnnntg ntctgatcnc tntctnnnt 480
ccatcnngtn ctnttctct gtntctctn cncgcncct gcattactgn gcattatatn 540
cncngtctca tnnctatctt cgtntctgt cncctctct ctatgcncga cgtcntntn 600
tactatcgct ntctcnnat tngnccgtg tccnngcnc ccgncntcc anntactctc 660
cangntctc ctntcctnt ncctgtctc attcnnctnt accgcntctn gntctctct 720
cgctntccc nnttctctc nctcncgmn ccttcagct ntcnanttct antnngnncn 780
cnc

```

783

<210> 119  
 <211> 674  
 <212> DNA  
 <213> Homo sapiens

&lt;220&gt;

&lt;221&gt; variation

<222> 1, 2, 114, 207, 212, 253, 261, 294, 316-317, 325, 327-329, 333-334, 340, 345, 352, 355, 364, 382, 384, 393-394, 397, 414, 418, 424, 426, 431, 440, 447, 449, 452, 455, 462, 467, 474, 482, 486, 492-493, 496, 500, 503, 509, 516, 519-520, 525, 532, 534, 539, 544, 550, 552, 555, 559, 564, 566, 573, 576, 586, 591, 594, 598, 605, 608, 610-611, 618, 626, 629, 635, 638, 644, 660-661, 666, 669

&lt;223&gt; n = any nucleotide

&lt;400&gt; 119

```

nntagatgca tgctcgagcg gcccgccagt gtgatggata tctgcagaat tgccttcc 60
tatgtatttc ttctggcca acctgtctt ctggagacc tggtagatct ctgngactgt 120
gccaagtta ctgttagtt ttggtctgc gaacaacagc atctcttca cactctgtat 180
gatacaactg tacttctca ttgctcncat gngcacagaa tgcgtgcttc tggccgccat 240
ggcctatgac cgntatgtg ncatctggcg cccactccac taccacaacca taantgagcc 300
atgggctcct gctcnnct cgtntnnna tanngaaccn acagngtagc gncantccc 360

```

```

tgtncgagaa tctacttcat cntnctgcct tannttntgt gggcccaatg tgcntaanca 420
cttnngntctg nggacatttn cteccagnant tnaantctct tncctgnaca aganactggt 480
cnttancttg annatnttcn ggnacattnt tectanggnn ttggnacgag cntntctanc 540
accngcactn cncantaant gctnengttc tantcngtgc cattcntgtg nctnccentt 600
tcatngcntn nctcccneg aaagcnaant aagtngngnt cttnactttc gcccccaen 660
ncatncant ggcc 674

```

&lt;210&gt; 120

&lt;211&gt; 643

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;220&gt;

&lt;221&gt; variation

&lt;222&gt; 359, 373, 439, 463, 506, 537, 564, 584, 594, 604, 610, 620, 633-634, 636

&lt;223&gt; n = any nucleotide

&lt;400&gt; 120

```

ggccctctag atgcatgctc gagcggccgc cagtgtgatg gatattctgca gaattcgccc 60
ttcctatgta ttttttcctg ttatttggag acctggagag cctcctcctt gtggccatgg 120
cctatgaccg ctatgtggcc atctgcttcc ccctgcacta caccgccatc atgagcccca 180
tgctctgtct cgccctgggtg gcgctgtcct ggggtgctgac cacttccat gccatgttac 240
acactttact catggccagg ttgtgttttt gtgcagacaa tgtgatcccc cactttttct 300
gtgatatgtc tgctctgctg aagctggcct tctctgacac tcgagttaat gaatgggtng 360
atatttatca tngaggggtc cattcttctc atcccatcct tactcctcct tgggtcctat 420
gcgagaattg tctcctccnt cctcaaaggc cccttcttct aangggatc tgcaaggcct 480
tctctacttg gtggctcccc ccctgncgtg ggtgtcactg ttccatttgg aaaccgntat 540
tgggactcta cttatgctca tcangctaata agttttactc ttangggaca ctgncaatgg 600
cctntgaagn tacccttggg gtggaccccc atnntngaac ccc 643

```

&lt;210&gt; 121

&lt;211&gt; 657

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;220&gt;

&lt;221&gt; variation

&lt;222&gt; 429, 447, 453, 484, 510, 519, 542, 544, 546, 549, 552, 561, 581, 587, 600-601, 613, 618, 620-621, 623, 632, 643, 655-656

&lt;223&gt; n = any nucleotide

&lt;400&gt; 121

```

ggccctctag atgcatgctc gagcggccgc cagtgtgatg gatattctgca gaattcgccc 60
ttccaatgta ctttttcctg ttatttggag acctggagag cttcctcctt gtggccatgg 120
cctatgaccg ctatgtggcc atctgcttcc ccctgcacta caccgccatc atgagcccca 180
tgctctgtct cgccctgggtg gcgctgtcct ggggtgctgac cacttccat gccatgttac 240
acactttact catggccagg ttgtgttttt gtgcagacaa tgtgatcccc cactttttct 300
gtgatatgtc tgctctgctg aagctggcct tctctgacac tcgagttaat gaatgggtga 360
tatttatcat gggaggggtc attcttgcct cccattccta ctcacccctg ggtcctatgc 420
aagaattgnc tccttccatc tcaaggncct ttnttctaaa gggatatctgc aaggccttct 480
ctanttgtgg cteccaccct gtcttgtggn tggcactgnt tctaattggga accggttaatt 540
gnancnctna cnttatgctc natcaactta aatagtttct nactttnaaa gggaccactn 600
ntcattgggt tanggatngn nenttgggtt cntggaaatc ccnatcattc ttacnng 657

```

&lt;210&gt; 122

&lt;211&gt; 622

<212> DNA  
<213> Homo sapiens

<220>  
<221> variation  
<222> 9, 536, 543, 587, 609, 616, 619, 621-622  
<223> n = any nucleotide

<400> 122  
atgaccctna gatgcattgct cgagcggccg ccagtgatgat ggatatctgc agaattcgcc 60  
cttccaatgt atttgttccct gtccaacctg tcctttttgg atattggctt tatctctaca 120  
ataattccca atattgctaga tcatattagc tcaggaatta agctgatttc ttatggggag 180  
tgtctgacac aactctatctt ctctggccta tttgcagatc tggacaacaa ctttctcctg 240  
gctgtgttgg ccttgaccg ctatgtggcc atcagccatc ctctccatta tggcctaacc 300  
atgaactccc aacgctgtgt cctgttggtg gctgtgtcat gggatgatcac tattttacat 360  
gccctagtgc ataccctcct agtgaccagg ctttccttct gtggtccaaa tattatccct 420  
cacttcttct gtgatctggc cccactcctg aagctggcct gctccagtac ttgtgtcaat 480  
gatctgggtg tcatccttgc ggcaggaaca ctgctgaatg cgccctttgc tgcattctta 540  
tgnccctactt ttacattgca ttggccatcc tgagaattga ttcccnagg ggtatgcaaa 600  
gggcccttnt ccagctcnc nn 622

<210> 123  
<211> 610  
<212> DNA  
<213> Homo sapiens

<220>  
<221> variation  
<222> 4, 445, 568-569, 580, 587, 600, 607, 610  
<223> n = any nucleotide

<400> 123  
gcgncgcagt gtgatggata tctgcagaat tcgcccttcc aatgtatttg tttctgttat 60  
ttggagacct ggagagcttc ctcttctgtg ccatggccta tgaccgctat gtggccatct 120  
gcttccccct gcactacacc gccatcatga gccccatgct ctgtctcgcc ctgggtggcg 180  
tgtcctgggt gctgaccacc ttccatgcca tgttacacac tttactcatg gccaggttgt 240  
gtttttgtgc agacaatgtg atccccact ttttctgtga tatgtctgct ctgctgaagc 300  
tggccttctc tgacactcga gttaatgaat gggatgatatt tatcatggga gggctcattc 360  
ttgtcatccc attcctactc atccttgggt cctatgcaag aattgtctcc tccatcctca 420  
aggtcccttc ttctaagggt atctngcaag gccttctcta cttgcggctc cacctgcctg 480  
tggtgtcact gttctatgga accgttattg gtctctactt atgctcatca gcccaataagt 540  
tttactctaa aaggacactt gtcatgggnt atgatgtacn ctgtggngac ccccatgctn 600  
aaccctntn 610

<210> 124  
<211> 660  
<212> DNA  
<213> Homo sapiens

<220>  
<221> variation  
<222> 469, 477, 482, 484, 493, 500, 509, 524, 527, 530, 536, 542, 549,  
553-555, 561, 571, 580, 581, 583, 591, 597, 602, 609, 617-619, 624-625, 627,  
636, 638, 642, 645-646  
<223> n = any nucleotide

<400> 124  
ccttgggccc tctagatgca tgctcgagcg gccgccagtg tgatggatat ctgcagaatt 60

```

cgcccttctt tattcctgag tgaatatatg aggggggttg cactgctgtt aagagtggac 120
agggaaatgg aaactagacg aacgtgacaa atccacgtgg atccagaaaa ataggaatca 180
ctgaatgccg aagggcaggt cacagaggag gaagaccagc actctgagca ggatgggtcat 240
gtacagcctg gtcaagggca ttttccggga tccacaaagg atcctgacca gcagaaccgg 300
gctggaccgg cagagaacca cacataaaaa aatcagccat gtgactgtga tgaaatctga 360
tgtttcacac caaacagaat caagcaccac tagacaggaa gccacagaac atccattcca 420
ggatgctctg cagcagggac agggcccaga gcaggacaca cgactgctna ccaggtnntt 480
tngngtggct gcnagctctn cttaggatng tccccaaagg ttgncnnggn ccggtncttt 540
gnttgcttnt cgnnncccta nctatgcctt ngctcctgtg nangcttgac nattggncct 600
cncccacgng gcttaannnt ctcnngncgc atttanancg tnatntact tcccttgctg 660

```

&lt;210&gt; 125

&lt;211&gt; 632

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;220&gt;

&lt;221&gt; variation

&lt;222&gt; 2, 488, 505, 507, 586, 618

&lt;223&gt; n = any nucleotide

&lt;400&gt; 125

```

gnccctctag atgcatgtgc gagcgccgag cagtgtgatg gatattctga gaattcgccc 60
ttcctatgta cttcttctct ttatttggag acctggagag cttcctcctt gtggccatgg 120
cctatgaccg ctatgtggcc atctgtctcc ccctgcacta caccgcccac atgagcccca 180
tgctctgtct cgccctgggt gcgctgtcct ggggtgctgac caccttccat gccatgttac 240
acactttact catggccagg ttgtgttttt gtgcagacaa tgtgatcccc cactttttct 300
gtgatatgtc tgctctgtct aagctggcct tctctgacac tgcagttaat gaatgggtga 360
tatttatcat gggagggctc attcttgtca tccattcctt actcatcctt gggctctatg 420
caagaattgt ctctccatc ctcaagggtc cttcttctaa gggatatctg aaggccttct 480
ctacttgnng ctcccactg tcttngngng cactgttcta tgggaaccgg tattggtctc 540
tacttaatgc tcatcaagct aatagtctta ctctaaagga cactgncatg gctatgatgt 600
acactgtggt gaccccnat gctgacccat tc 632

```

&lt;210&gt; 126

&lt;211&gt; 642

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;220&gt;

&lt;221&gt; variation

<222> 331, 422, 435, 441, 462, 467-468, 471, 479, 500, 502, 513, 521, 537, 543-545, 549, 551, 563, 565-566, 569, 577, 582-583, 586, 594, 596, 611, 614, 620, 624, 631, 639-640

&lt;223&gt; n = any nucleotide

&lt;400&gt; 126

```

tctagatgca tgctcgagcg gccgcagtgt gatggatatc tgcagaattc gcccttccaa 60
tgtacttggt cctggcagcc atggcttatg accgctgtct tgccatctgc tatcctttac 120
actacggagc catcatgagt agcctgtctc cagcgcagct ggccctgggc tctgtgggtg 180
gtgggttctg ggccattgca gtgcccacag ccctcatcag tggcctgtcc ttctgtggcc 240
cccgtgccat caaccacttc ttctgtgaca ttgcaccctg gattgccctg gcctgcacca 300
acacacaggg agtagagctt gtggcctttg ngattgctgg tgtggttatc ctgagttcat 360
gcctcatcac ctttgtctcc tatgtggaca tcatcagcac catecttcag gatccctttt 420
gncagtgcgc ggagnaaaag ncttttccac gtgctcctcg cntctcnneg nggtgctcna 480
tttgggtatg gtccacaagn tnttctttca cgnccggatt ntccattcaa aagatgncct 540
tgnnnnttna ncaaaagctt ggnncnngnc ctgaaanact gnnngtnact tcangnttta 600
aaactccttt natntcactn ttanggggaac naggggcggn ac 642

```

<210> 127  
 <211> 688  
 <212> DNA  
 <213> Homo sapiens

<220>  
 <221> variation  
 <222> 1, 4, 54, 154, 269, 284, 294, 327, 339, 342, 344, 360, 362, 366, 372-373, 379, 382, 390, 393, 395, 397, 402, 408, 410-411, 417, 425, 428, 433, 435, 442, 446-448, 456, 461, 468, 473, 476, 479, 485, 487, 489, 508-509, 514-515, 526, 532-533, 535, 537, 539, 547, 550-551, 553, 555, 559, 572, 578, 582, 587, 595, 597, 602-603, 609-613, 617, 619, 621, 630, 634, 636, 640, 650, 652, 660, 679, 681, 683-684  
 <223> n = any nucleotide

<400> 127  
 ntgngccctc tagatgcatg ctcgagcggc cgccagtgtg atggatatct gcangaattc 60  
 gcccttccca tgtatttatt ccttagcctg ttggattccc agctgcacag ctggattgtg 120  
 ttacacaact caccttcttc aagaatgtgg aaanctataa ttttttttct gtgacccatc 180  
 tcaacttctc aaccttgcct gttctgacag catcatcaat aacatattat gtattttaga 240  
 tatccctata tttgggtttc tccccattnc agggatcctt ttgncttacc atanaattgt 300  
 cctcctccat tccaagaatt ccattgncag acgggacgna tnangccttc tctacctgt 360  
 cntctnacc gnnagtcgnt tntttatctn tgnantnccc tngggcgncn nccctgncct 420  
 cagcnttngt cncnttctc cncacnnntt cgtcgtgtt ncccagtnct gtntctnctc 480  
 tctctnctc tttctgcctc cctccanng tctncttctc tcagncctt tnnngcnct 540  
 gccagncnc nangntcnc cctctcctc cntgtctnct cctcctntt cttctntctc 600  
 tnnctcatnn nnncgncnc ncgtctctcn cctntctn taagactcnc gncgtctctn 660  
 cgcctacgac ctccctgtnc ncnncggg 688

<210> 128  
 <211> 619  
 <212> DNA  
 <213> Homo sapiens

<220>  
 <221> variation  
 <222> 10, 46, 60, 322, 365-366, 464, 472, 475, 482, 493, 498, 498, 504, 517, 535, 543, 547, 556, 564, 584, 590, 600, 602, 610  
 <223> n = any nucleotide

<400> 128  
 gcgtgctgcn agcggggcgg cagagtgage ggatatctgc agaatncgcc cttccgatgn 60  
 atttctttct aagcaactta tctttcattg acatctgcta ctcttctgct gtggctccca 120  
 atatgctcac tgacttcttc tgggagcaga agaccatata atttgtgggc tgtgctgctc 180  
 agtttttttt ctttgtcggc atgggtctgt ctgagtgcct cctcctgact gctatggcat 240  
 acgaccgata tgcagccatc tccagccccc ttctctaccc cactatcatg acccagggcc 300  
 tctgtacacg catggtggtt gnggcataat ttggtggctt cctgagctcc ctgatccagg 360  
 ccagnnccat atttaggctt cacttttgcg gacccaacat catcaaccac ttcttctgcg 420  
 acctccacca gtccctggctc tgtcttgctc tgacaccttc cttnagtcaa gncgncgaat 480  
 tntcccggtg tgntcaentg tcgngaggaa acatcgnttt cctccaaccc cttantctcc 540  
 canggnntac catagntct gcgngtcctt gaagaatcct tttngccaan cgggcgaatn 600  
 gnaagccctn ccaccgcc 619

<210> 129  
 <211> 697  
 <212> DNA  
 <213> Homo sapiens

&lt;220&gt;

&lt;221&gt; variation

<222> 17, 223, 238, 260, 304, 310, 315, 317, 322, 325, 327, 329, 341, 345-347, 350, 351, 356, 361, 369, 373-374, 378, 386, 391, 394, 396, 403, 414, 416, 426, 447-448, 456, 459, 461-462, 469, 473, 475, 477, 482, 488, 493-495, 504, 508, 511, 515, 518, 523, 527, 532-533, 537, 543, 548, 555, 558, 561, 570-571, 578, 580, 587-588, 592, 598-599, 601-602, 606, 608, 613, 619, 622-623, 634-635, 645, 648, 656, 658, 661, 665, 674-675, 682, 685, 687, 694-695

&lt;223&gt; n = any nucleotide

&lt;400&gt; 129

```
gcggcgcagt gtgatgntat ctgacgaatt cgcccttccg atgtatttat ttctaagcaa 60
cttatctttc attgacatct gctactcttc tgctgtggct cccaatatgc tcaactgactt 120
cttctgggag cagaagacca tatcatttgt gggctgtgct gctcagtttt ttttctttgt 180
cgccatgggt ctgtctgagt gcctcctcct gactgctatg gcntacgacc gatatgcngc 240
catctccagc ccccttctcn accccactat catgaccag gccctctgta cacgcatgga 300
ggtngcgccn tatgntngtt gntcnctng agctccctga nccannnctn ntcacntatt 360
ntaggctcna ccnntcgngc tcccgnctca ncancnaacc ccnttcgttc ctgnanactt 420
ctccanacag ttcctggctt ttctgcnnct gcctcncgnc nnccttatnc ttnangntca 480
cncctganct gcnntttctt ccangecngc ncgncancc cgnctctnct gnnngaancct 540
ttnccatnct gctcnatnct nctctcatcn ntctctantn ctctccnnct cncgctcnnt 600
ncttncnct ctnaacctnt cnatcctca cctnngatat cctcncgntc tttcgnctc 660
nttncctgtc cganntctc anacnctcc ctanncg 697
```

&lt;210&gt; 130

&lt;211&gt; 625

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;220&gt;

&lt;221&gt; variation

&lt;222&gt; 473, 502, 524, 547, 550, 567, 572, 590, 596, 614-615, 619, 623

&lt;223&gt; n = any nucleotide

&lt;400&gt; 130

```
ctctagatgc atgctcgagc ggccgccagt gtgatggata tctgcagaat tcgcccttcc 60
tatgtattta ttccttagcc acttgccct cactgacatc tccttttcat ctgtcactgt 120
ccctaagatg ctgatgaaca tgcagactca gcacctagcc gtcttttaca agggatgcat 180
ttcacagaca ttttttttca ttttttttgc tgacttagac agtttctta tcacttcaat 240
ggcatataac aggtatgtgg ccatctgaca tcctctacat tatgccacca tcatgactca 300
gagccagtgt gtcattgctg tggctgggtc ctgggtcctc gcttgtgcgt gtgctctttt 360
gcgtaccctc ctctggccc agcttctct ctgtgctgac cacatcatcc ctactactt 420
ctgtgacctt ggtgccctgc tcaagttggc ctgtcagac acctccctca atnagttagc 480
aatctttaca ggagcattga cnggcattat gcttccattc ctgngcatcc tgggttctta 540
tgggcanatn tgggggtcac cattctncag anttcttta ccagggcatn tgcaangcct 600
tggccacttg tggnnccnc tcneg 625
```

&lt;210&gt; 131

&lt;211&gt; 657

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;220&gt;

&lt;221&gt; variation

<222> 344, 419, 443, 464, 486, 521, 524, 535, 537-538, 545, 552, 564, 567, 572, 584, 586, 588, 601, 604, 608-609, 611-612, 616, 618, 620, 622, 626, 629-630, 633, 638-639, 643, 645, 655

&lt;223&gt; n = any nucleotide

&lt;400&gt; 131

```

ttggcctcta gatgcatgct cgagcgccgc cagtgtgatg gatatctgca gaattcgccc 60
ttgatacatg attgggttgc ggaaggaata aatcatcggg ttgcggaagg aataaatata 120
tcgggttgcg gaaggaataa atacatcggg ttgcggaagg aataaatata tcgggttgcg 180
gaaggaataa atcatcgggt tgcggaagga ataaatacat cgggttgcg aaggaataaa 240
tacatcgggt tgcgtaagga ataaatcatt gggttgcgta aggaataaat cattgggttg 300
cgtaaggaat aaatcattgg gttgcgtaag gaataaatca ttgngttgcg taaggaataa 360
atctttgtgc tggtagcgat ctatcatggg gttacgaaag ggaagaaata cattggaang 420
ggcgaattcc agcacactgc cgnccgctac tagtgggac cganctcggg accaagcttt 480
gatgcntagc ttgagtattt taacgccgcc aacctaaaat ngcnttggcc ttacnenntg 540
gaccnagctt gnttcccttg cgtnaanttt cnttatctct cctntntntc ttctccccc 600
ncanaatnnt nccccngntn ancaencann ttntatanne ctngngctcc cctantc 657

```

&lt;210&gt; 132

&lt;211&gt; 624

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;220&gt;

&lt;221&gt; variation

&lt;222&gt; 7, 27, 34, 39, 481, 484, 489, 493, 502, 520, 566, 614, 623-624

&lt;223&gt; n = any nucleotide

&lt;400&gt; 132

```

tggcccncta gatgcatgct cgagcgncgc cagngtgang gatatctgca gaattcgccc 60
ttcctatgta tttattcctt aatgtcctct cgcttcttga tatttggtac tcttctgtgg 120
tcacacctaa gctcttggtc aacttcctgg tctctgacaa gtccatctct tttgagggct 180
gtgtggtcca gctcgcttc tttgtagtgc atgtgacagc tgagagcttc ctgctggcct 240
ccatggccta tgaccgcttc ctatccatct gtcaaccctt ccattatggt tctatcatga 300
ccagggggac ctgtctccag ctggtagctg tgtctatgc atttggtgga gccaaactccg 360
ctatccagac tggaaatgtc tttgccctgc ctttctgtgg gcccaaccag ctaacacact 420
actactgtga cataccaccc cttctccacc tggcttgtgc caacacagcc acagcaagag 480
nggncctcna tgncttttct gntctggcac cttctggcn gctgcaggca ttctcacctc 540
taccggcttg ggcttggggg ccaatnggga ggatgcgcct caagaacagg gagggagaaa 600
ggactcccca cttntgcctc ccnn 624

```

&lt;210&gt; 133

&lt;211&gt; 590

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;220&gt;

&lt;221&gt; variation

<222> 161, 185, 190, 221, 278, 303, 320, 337, 348, 360, 371, 387-388, 390, 393, 395, 402, 407, 409, 413-414, 423, 437, 449, 455, 459, 461, 464, 466-467, 468, 471, 475, 482, 484, 487, 489, 491, 493-495, 499, 500, 503-504, 510, 515, 519-520, 528, 538, 540, 541, 543, 546, 548, 555-556, 558, 563, 566, 568, 572, 575, 584-586, 588

&lt;223&gt; n = any nucleotide

&lt;400&gt; 133

```

ggagttgata tgaacgggtt aagtgaagga gtgcccactg catagaagag accaaagaac 60
ttgcccctcc cttgggcata cggatttttg ggctggaggt agacagcaat gactgagctg 120
cagaagaggg tgaccacagt gagatgggag gagcaggctc naaaggcctt tctccatgct 180
gtggnagagn taattctcag cactgccttg gcagtcggct ncataagagg caaggatgag 240
gctgagaggg acaaccacga agatgacact ggacacangc caactgtatc cattgttagga 300
ggnatctcca caggagagtn gaatcagaga tgggacnttc acattaanaa gttatttatn 360
tgctggcggg nacagatgcc caagcgannn gngntatgg tntcggncna ttnnttcgtc 420

```

canacccatt atctcangcc acatgtatnt cagcnttttna ntncnntnt nagtntagtc 480  
 tngntgntnt ncnntattnn cenncttttn tccntcann tatcattntc attccttnen 540  
 ncncanantt atggnnncnc cgnacncnct cngtnactcc cctnnngncg 590

<210> 134  
 <211> 655  
 <212> DNA  
 <213> Homo sapiens

<220>  
 <221> variation  
 <222> 2-3, 5-11, 17485, 506, 512, 514, 518, 525, 543, 578, 590-592, 602, 609,  
 612, 616, 637, 646

<223> n = any nucleotide

<400> 134  
 gnntnnnnnn ntgttancct cgtccctcta gatgcatgct cgagcggccg ccagtgtgat 60  
 ggatatctgc agaattcgcc cttccgatgt atttatttct acacagacac agtgacaatc 120  
 tgatctctct tgcctttccc cacacactgc aacctctgcc tccacattca agtgattctc 180  
 ctgcctcagc ctcttgagta gctggaatta cagatgtgag ccaccatgcc tggcctgtcc 240  
 agatgttttt gaaacaaccc ccaccagcac tggagggagt caaggggaaga caagccaggc 300  
 atctgagctc ctctgtctct gcctttcctt ctactgtcc ccagggtaac ccgtcaccac 360  
 ccccatcacg aaccccttca tctacacatt acgtaacaag ggcgaattcc agcacactgg 420  
 cggccgttac tagtgatcc gagctcggtta ccaagcttga tgcatagctt gagtattcta 480  
 acgntcacc taaatagctt ggcgtnatca tngncccnag cttgntttct gtgtgaaatt 540  
 tgntatccgc tcacaaattc cacacaacat acgagccnga agcaataagn nntaaagcct 600  
 gnggtgccna angagnagc taactcacia ttaattncgt tggctnactt gcccc 655

<210> 135  
 <211> 639  
 <212> DNA  
 <213> Homo sapiens

<220>  
 <221> variation  
 <222> 4, 449, 480, 499, 510, 519, 524-525, 536, 543, 547, 550-551, 557-  
 558, 564, 574, 581, 602, 615, 518, 621, 623, 627, 636, 639  
 <223> n = any nucleotide

<400> 135  
 ttngccctc tagatgcatg ctcgagcggc cgccagtgtg atggatatct gcagaattcg 60  
 ccttctctat gtacttggtt ctaagcaacc tctccttctt ggagatttgg tataccacag 120  
 cagcagtgcc caaagcaccg gccatcctac tggggagaag tcagaccata tcatttacia 180  
 gctgtctttt gcagatgtac tttgttttct cattaggtg cacagagtac ttctccttgg 240  
 cagccatggc ttatgaccgc tgtcttgcca tctgctatcc ttacactac ggagccatca 300  
 tgagtagcct gctctcagcg cagctggccc tgggctcctg ggtggtgtgg ttctgtggcc 360  
 attgcagtgc ccacagccct catcagtggc ctgtccttct gtggttcccg tgccatcaaa 420  
 cacttcttct gtgacattgc accctggant gccctggcct gcaccaacac cacaggcagn 480  
 aagagcttgt ggcctttgng aatcgcttgn tggggctanc cttngtcat gccctnatca 540  
 cctttntcn nctatgnngt acantcatta agcnccaatc nctcatggga tccccctttg 600  
 cnagtggccc ggcgngcnaa ngncctnctc cccgtncn 639

<210> 136  
 <211> 654  
 <212> DNA  
 <213> Homo sapiens

&lt;220&gt;

&lt;221&gt; variation

<222> 3, 108, 186, 216, 221, 252, 322, 329, 339, 344, 346, 350, 370, 376, 379, 385, 388, 391, 398-400, 404, 409, 418, 422, 428-429, 433, 437, 455-456, 462, 465, 474-476, 493, 496, 498, 503, 506, 515, 521, 527, 538, 540, 542, 548, 554, 561, 563, 565, 586, 595, 598, 612, 628, 639, 646

&lt;223&gt; n = any nucleotide

&lt;400&gt; 136

```

tgnccctcta gatgcatgct cgagcggcgc ccagtgtgat ggatatctgc agaattcgcc 60
cttccgatgt atttgtttct agccaacctg tcattaactg atgcttgntt cacttctgcc 120
tccatcccca aaatgctggc caacattcat acccagagtc agatcatctc gtattctggg 180
tgtctngcac agctatatatt cctccttatg tttggnggcc ntgacaactg cctgctggct 240
gtgatgccat angaccgtta tgtggccatt tgccaaccac cccattacag cacatctatg 300
agtccccagc tctgtgcaact antgctgcnc gtgtgctgng tgcnanccan ttgtctgcct 360
gctgcacatn ctgttncenc cccnccnggg nctctttnnn ccgnaccenc cctacaantc 420
cntatcannt tcnctnccc tttcttctcc cccnnttct tncnccttc ctcnnccta 480
ctttcttctc tcnctnctc canatnatca gtccnacctc nccttctttt cttcactnan 540
tntctctnct cccnctcacc ngntngtcta gtctgccgtc gccccntcgc tatcnctncc 600
ccccctcccg cntccctga tegtctngt ctaccctcnc catctnatcc ctcc 654

```

&lt;210&gt; 137

&lt;211&gt; 658

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;220&gt;

&lt;221&gt; variation

<222> 334, 346, 350, 352, 357, 360, 369, 376-379, 389, 394, 397, 400, 401-402, 411, 414, 421, 435, 438, 447-449, 460, 466-467, 474, 476, 480, 486, 500, 504, 510, 512-513, 515, 517, 521, 525, 528, 543, 551, 554-555, 557, 559, 569-570, 572-573, 585, 587, 591, 593-594, 600-601, 606-607, 612, 615, 617, 621, 623, 628-629, 631, 633, 636-637, 640, 655

&lt;223&gt; n = any nucleotide

&lt;400&gt; 137

```

ctctagatgc atgctcgagc ggccgccagt gtgatggata tctgcagaat tcgcccttcc 60
aatgtatttt tttctaagca acctctcctt cctggagatt tggatatacca cagcagcagt 120
gcccaaagca ctggccatcc cactggggag aagtcagacc atatcattta caagctgtct 180
tttgcatatg tactttgttt tctcattagg ctgcacagag tacttctctc tggcagccat 240
ggcttatgac cgctgtcttg ccatctgcta tcctttacac tacggagcca tcatgagtag 300
cctgctctca gcgcagctgg ccctgggctc ctggncgtgn ggcttngtgn cnttgngcn 360
ctcctagcnc tcatgnnnnc cttgccttnt gggncctnng nnatcacctc nttncctctg 420
nacacttgta cctcncgnet tgccctnnnc tgcttctaan tccctnngtt gtantnctn 480
gccttntctc cccttcgctn gttnatcttn annntcctgc nctctnngnc ctctcctteg 540
ttngacccct ntannncnc tcttctctnn annctccctc tatcnncncc ntncnctn 600
ntgtcnncgg antangntac ntntcannnt ntntcnctn ctctcctaac tcttncgg 658

```

&lt;210&gt; 138

&lt;211&gt; 670

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;220&gt;

&lt;221&gt; variation

<222> 342, 347, 358, 376, 383, 401, 403, 409, 448, 451, 455, 463, 470, 474, 478, 481-482, 484, 487, 489-490, 492, 499, 511, 514, 516, 518, 522, 525, 534,

536, 548, 556, 565, 577, 581, 585, 587, 589, 592, 598, 604, 607-609, 624-626,  
628, 636, 639, 645, 651, 655, 660, 661-663, 667-668  
<223> n = any nucleotide

<400> 138

```
ggccccctag atgcatgctc gagcgggcgc cagcgtgatg gatattctgca gaattcgccc 60
ttcccatgta ttgttttcta agcaacctct ccttcctgga gatttggtat accacagcag 120
cagtgcceaa agcactggcc atcctactgg ggagaagtca gaccatatca tttaacaagt 180
gtctttttgca gatgtacttt gttttctcat taggctgcac agagtacttc ctctggcag 240
ccatggctta tgaccgctgt cttgccatct gctatccttt acactacgga gccatcatga 300
gtagcctgct ctacgcgcag ctggccctgg gctcctgggt gngtggnntc gtggccantg 360
tagtgcceac agccentatc agnggcctgt ccttttgtgg ncncctgtnc catcaacccc 420
ttcttttctgt gacatttgcc cccctgcntt nccctggcc ctnccecaan cacngcangg 480
nngnttncnn gnctggcnc cccctttgac ntantncntt gntgngcgt tatnctgcg 540
tttaatgnc ttaatnaaac tctcncctct catgttnttc nttntntng gnaccaantc 600
ttcnaannna ccttttttc catnnncnc tctacntcnc tctcncctc ntcngttn 660
nngtncncc 670
```

<210> 139

<211> 635

<212> DNA

<213> Homo sapiens

<220>

<221> variation

<222> 303, 314, 331, 339, 341, 360, 373, 379, 386, 395, 400, 406, 416, 419,  
423, 433, 435, 452, 456, 463, 473, 480-481, 487, 490, 493, 499, 501, 504-505,  
509, 511, 514, 517, 519, 522, 523, 534, 535, 543, 544, 554, 560, 563, 565,  
567, 579, 584, 593, 596-597, 599, 605-608, 611-612, 619-620, 624, 632, 634  
<223> n = any nucleotide

<400> 139

```
gatgcatgct cgagcggcgc ccagtgtgat ggatatctgc agaattcgcc cttccgatgt 60
atTTTTTTct aagcaacctc tccttcctgg agatttggtg taccacagca gcagtgcceca 120
aagcactggc catcctactg gggagaagtc agaccatata atttacaagc tgtcttttgc 180
agatgtactt tgttttctca ttaggctgca cagagtactt cctcttgga gccatggctt 240
atgaccgctg cttgccatct gctatccttt acactacgga gccatcatga gtagcctgct 300
ctnagcgcag ctgnccctggg ctctctgggtg ngtggtteng ngccattcag cgccacagn 360
cttcatcagt ggncctgtnc ttctgngccc ccgcncatcn aaccantttc ttctgngana 420
atngtacccc tgnanttgcc ctggccttgt anccancaca tangctcgta tngcctctn 480
ntggccnccn tgnttegent ngtnccgng ntancngnc tnnacgtcct ttcnnacact 540
ttnctctat gttntcaacn tcnngncta ttegtcang atanccactc ttcnancnt 600
cggannnnta nctttccnn acctcttctc cntnc 635
```

<210> 140

<211> 709

<212> DNA

<213> Homo sapiens

<220>

<221> variation

<222> 357, 369, 379, 382, 414, 430, 441, 458, 462, 468, 474, 481, 486, 494,  
505, 507-509, 514, 520, 533, 546, 551, 555-556, 563, 570, 574, 589, 600, 602,  
606, 613, 615-616, 622-623, 628, 638, 644, 653, 669, 671, 677, 679, 680-681,  
689, 691, 696-698  
<223> n = any nucleotide

<400> 140

```
atgaccctct agatgcatgc tcgagcggcc gccagtgtga tggatatctg cagaattcgc 60
```

```

ccttccctatg tatttatttc taagcaacct ctccttcctg gagatttggg tataccacag 120
cagcagtggc caaagcactg ggccatccta ctggggagaa gtcagaccat atcatttaca 180
agctgtcttt tgcagatgta ctttgttttc tcattaggct gcacagagta cttcctcctg 240
gcagccatgg cttatgaccg ctgtcttgcc atctgtatc ctttacacta cggagccatc 300
atgagtagcc tgctctcagc gcaagctggc ctgggctcct gggtgtgtgg ttccgngggc 360
cattgcagng cccacagcnc tnatcagtgg gctgtccttt ctgtgggccc ccgngcccat 420
tcaacccacn tttctttttg nggatattgg caaccccntg gnatttgncc cctnggccct 480
ngcacncaaa ccancaccag ggtcngnnna caanctttgn cggggccctt ttntgaaatt 540
ggcctnggtg ngggnnntaat tcnctttggn tttnaatgcc cttccaatna acctttttgn 600
cnttentatg gngnncct tnnattcnag caccacanc ttanggggaa ccnccttttt 660
gtcaagtng nccggtann naaaagcct ntccnnntg cccccccg 709

```

&lt;210&gt; 141

&lt;211&gt; 671

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;220&gt;

&lt;221&gt; variation

<222> 1, 18, 368, 374, 375, 386, 392, 404, 405, 414-415, 420-422, 445-446, 449-450, 452, 460, 467-468, 471, 484, 488, 490, 512, 514, 531, 536-537, 541-542, 549, 562, 568, 572, 574-575, 577, 585, 588, 592-593, 595, 599, 617, 619, 627, 636, 639, 647, 658-659, 661-662, 665-667, 669

&lt;223&gt; n = any nucleotide

&lt;400&gt; 141

```

ntggggccctg agatgcangc tcgagcggcc gccagtgtga tggatatctg cagaattcgc 60
ccttcccatg tatttttttc taagcaacct ctccttcctg gagatttggg ataccacagc 120
agcagtggcc aaagcactgg ccatacctact ggggagaagt cagaccatat catttacaag 180
ctgtcttttg cagatgtact ttgttttttc attaggctgc acagagtact tcctcctggc 240
agccatggct tatgatcgct gtcttgccat ctgctatcct ttacactacg gagccatcat 300
gagtagcctg ctctcagcgc agctggccct gggctcctgg gtctgtgggt tcgtggccat 360
tgaagtgncc acanngcctc atcagntggc cntgtccttc tgcnnccccc cgtnnccattn 420
nncacttctt tcgtgacatt gccannctnn tnttgccctn gtccttnncc natcatccat 480
ggcngttngn gctgttggcc ctttcgctca cncngctgc gccattctc nctgtnncaa 540
nngcctcctt ctactctctg cnttctanct antnnncct ctttncctnc tnnantctnt 600
cctcgatctc ctttcangnc tccgctncac tgctcncna acgtccnttt ctccctnnt 660
ntcnnntnc g 671

```

&lt;210&gt; 142

&lt;211&gt; 739

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;220&gt;

&lt;221&gt; variation

<222> 5-6, 23, 232, 235, 349, 353, 358, 374, 397, 400, 406, 423-424, 427, 431, 434, 436-437, 440, 445, 448, 450, 452, 467, 471, 477, 488-489, 497-498, 506, 510-512, 518-520, 525, 528, 547, 550, 557-558, 560, 562-563, 566, 569, 590-591, 604-605, 613, 619, 631, 638-639, 642, 646, 649-650, 654, 660-661, 664, 670, 677, 679, 687, 690, 692, 694-695, 701, 714, 716, 722, 725, 731, 739

&lt;223&gt; n = any nucleotide

&lt;400&gt; 142

```

gggcnncttt gggatatgct tgncccttag atgcatgctc gagcggccgc cagtgtgatg 60
gatatctgca gaattcgccc ttccaatgta cttatttcta gccaacctgt cattaactga 120
tgccctgtttc acttctgctt ccatcccaa aatgctggcc aacattcata cccagagtca 180
gatcatctcg tattctgggt gtcttgca gctatatttc ctccttatgt tngngggcct 240

```

```

tgacaactgc ctgctggctg tgatggcata tgaccgctat gtggccatct gccaaaccact 300
ccattacagc acatctatga gtccccagct ctgtgcacta atgctgtgng tngctgtngt 360
gctaaccaac tggmctgccc tgatgcacac actgttncn atccnngcgc tttcttggtc 420
ccnntangcc nctnctnctn ttccntntn tntctctacc tctccntcg ngctctnccc 480
cttccccnnt ctctctnntg tactenctan nctgttnnn cccctctntt ctctctcttc 540
ttctctntcn ctctctnntn tnttntctnc tcttgctcct acctgtcccn ntcatacctt 600
ttcnnaatcg ctntctatnc cgcctatagt ncaattcnnc tncctnctnn attnctctacn 660
ncntctctcn ccatcantnc taacctnctn cntnntctct ntctctgtcc tcanctctc 720
gnccnatttc nttttcccn
739

```

&lt;210&gt; 143

&lt;211&gt; 611

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;220&gt;

&lt;221&gt; variation

&lt;222&gt; 497, 528, 536, 540, 543, 551, 557, 563, 565, 570, 582, 589, 600, 605

&lt;223&gt; n = any nucleotide

&lt;400&gt; 143

```

gatgcatgct cgagcgggccc ccagtgtgat ggatatctgc agaattcgcc cttgatagat 60
aattgggttc agcatggggg tcaccacagt gtacatcata gccatgacag tgccttttag 120
agtagaacta ttagctgatg agcataagta gagaccaata acggttccat agaacagtga 180
caccacagac aggtggggagc cacaagtaga gaaggccttg cagataccct tagaagaagg 240
gaccttgagg atggaggaga caattcttgc ataggacca aggatgagta ggaatgggat 300
gacaagaatg agccctccca tgataaatat caccattca ttaactcgag tgcagagaa 360
ggccagcttc agcagagcag acatatcaca gaaaaagtgg gggatcacat tgtctgcaca 420
aaaacacaac ctggccatga gtaaagtgtg taacatggca tggaaggtgg tcagcaccga 480
ggacagcgcc accaggncga gacagagcat ggggctcatg atggcgngt agtgcngggg 540
gangcagatg nccacantag tgnatnagn ccatggtcac angggaggna gctttcaggg 600
ctttnaataa c
611

```

&lt;210&gt; 144

&lt;211&gt; 641

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;220&gt;

&lt;221&gt; variation

<222> 242, 263, 289, 315, 353, 357, 360, 372, 376, 385, 392, 397, 407, 416, 420, 422, 425, 429, 431, 433, 439, 446-449, 454, 465-466, 471, 479, 485, 492, 499, 501, 512, 516, 524, 528-529, 532, 534, 539, 543, 545, 547, 549, 561, 563, 565, 572-573, 575, 578, 582, 584-586, 596, 602, 604, 613, 615, 617, 622, 627-628, 632, 636-637, 639

&lt;223&gt; n = any nucleotide

&lt;400&gt; 144

```

gcgtgctcga gcggccgcca gtgtgatgga tatctgcaga attcgccctt gttgcgcaaa 60
gagtacatga aggggttaag tgaaggagtg cccactgcat agaagagacc aaagaacttg 120
cccctccctt gggcatacgg atttttgggc tggaggtaga cagcaatgac tgagctgtag 180
aagagggtga ccacagttag atgggaggag cagggtccaa aggcctttct ccatgctgtg 240
gnagagttaa tcctcagcac tgnctgggca gtggctccat aagaggcang gatgaggctg 300
agaggcacia ccacngaaga tgacactgta cacagccaac tgtattttat tgnaggnggn 360
atctccacag gngagnccaa tcagntgatg gntccnccc atttcanaag tcnctntatn 420
tntnttgnc ngncacgang gtctnnnnng agcngttctt gtccnntctt nactatcgnt 480
taccttccct cntccctent nttttcttc cncctnctc ttctnttnc cntntccnt 540
gtncnctnt atcttcccta ntntctctt tntnctntt tngnnncctt cctctntctt 600
tntntccctc tcnantat cnettggncc cncctntnc c
641

```

<210> 145  
 <211> 837  
 <212> DNA  
 <213> Homo sapiens

<220>

<221> variation

<222> 8-9, 12, 330, 350, 364, 367, 387, 390-391, 393-395, 398, 399-400, 403, 406, 409, 411, 413, 416, 428-429, 438, 449, 454, 464-465, 475, 481, 486, 488, 492, 500-501, 504, 506-507, 515, 523, 532, 538, 548, 556, 562, 565, 567, 573-575, 578, 582-583, 589, 592, 598, 599-600, 604, 608, 612, 629, 637-639, 643, 645, 647, 652, 663, 666, 668, 672, 679, 686-687, 689-690, 693, 699, 710, 715, 717, 719, 721-722, 724, 732-734, 748-751, 763-764, 772-773, 780, 783, 791, 811, 818, 828, 834, 836  
 <223> n = any nucleotide

<400> 145

```

gggtgceenn gnttaggcat tgggcectct agatgcatgc tcgagcggcc gccagtgtga 60
tggatatctg cagaattcgc ctttccgatg tatttgtttc taagcaacct ctccctcctg 120
gagatttggt ataccacagc agcagtgcgc aaagcactgg ccatactact ggggagaagt 180
cagaccatat catttacaag ctgtcttttg cagatgtact ttgttttctc attaggctgc 240
acagagtact tcctcctggc agccatggct tatgaccgct gtcttgccat cctgctatcc 300
tttacctac ggagccatca tgagtagecn tgctctcage tgcagctggc cctgggctcc 360
tggntgmgct ggtttctcgc cctattnttn ncnnnacnnn cntantcng ncnctnctct 420
ctttcttntt tccctttnc tcaactcatc ctctctctct tttntgtgcc tcttnataac 480
nttgtntntc gnttctccn ntentnncct ctctnttget tcnctctcct cntttcgnat 540
ccctttgntc tctacnctct tncgnantca cttnnatntc tnnacacng cntcctcnnn 600
gatnttence tnettaactgc tactctctnc tatactnnnc ttntntncat anttcgtctg 660
ctnancantc tntcactent tcccanncnn tcnctgtent ctgactcten cctctntnt 720
nntnctcac cnnntacatg gtccctnnn ntccatctcg tcnntctctc cnntatacgn 780
ttncatactc nctaacttct ctccatcatc ntcacctntc tttctttntc cctngnc 837

```

<210> 146  
 <211> 639  
 <212> DNA  
 <213> Homo sapiens

<220>

<221> variation

<222> 16, 340, 379, 394, 401, 425, 428, 433, 435, 437-438, 446, 457, 463-464, 487, 504-505, 508, 510-511, 517-518, 529, 542, 546-547, 549-550, 552-553, 555, 561, 567, 569, 573, 576, 582, 584-586, 590, 594, 597, 599-600, 604, 611, 618, 623, 631, 634, 636

<223> n = any nucleotide

<400> 146

```

gatgatgctc gagcgncgca gtgtgatgga tatctgcaga attcgccctt ccaatgtatt 60
tatttctagg caccactgac ttcttctctc tggccgctcat gtctctggat cgttacctgg 120
caatctgccg accactccgc tatgagacct tgatgaatgg ccagtgtctgt tcccaactag 180
tgctggcctc ctggctagct ggattcctct gggctccttg cccactgtc ctcatggcca 240
gctgctctt ctgtggcccc aatgggtattg accacttctt tcgtgacagt tggcccttgc 300
tcaggcttct ttgtggggac acccacctgc tgaaactggc ggctttcatg ctctctacgt 360
tggtgggtact gggcccacng gctctgacct cagntttcta ngcccgcatt cttgccactg 420
ttctnagngc ccncnangc ttgcngagc gaagcanaag atnnttttca cattgcgcac 480
tcggaantta aaggggggtgg cgcnnancn nctgggnngc ttcattctnt ctttttactt 540
tnccannngn tnntngctca ntccctntnc tcntcncaat cntnnnggcn ctctngntnn 600
gtanactgcc ntaattnga ccnctttccc nacnencac 639

```

&lt;210&gt; 147

&lt;211&gt; 618

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;220&gt;

&lt;221&gt; variation

<222> 347, 411, 415, 418, 435, 441-442, 445, 451, 466, 482, 506, 508, 513, 515-516, 526-527, 531-532, 534, 536, 552, 561, 564, 571, 574, 581, 583, 586-588, 591-592, 616

&lt;223&gt; n = any nucleotide

&lt;400&gt; 147

```

catagatgca tgctcgagcg gccgcagtgat gatggatata tgcagaattc gcccttccga 60
tgtaagttct ttctaggcac cactgacttc ttctcttgg ccgtcatgtc tctggatcgt 120
tacctggcaa tctgccgacc actccgctat gagacctga tgaatggcca tgtctgttcc 180
caactagtgc tggcctcctg gctagctgga ttctctggg tcttttggcc cactgtcctc 240
atggccagcc tgcctttctg tggccccaat ggtattgacc acttctttcg tgacagttgg 300
cccttgctca ggctttcttg tggggacacc cacctgctga aactggnggc ttcatgctc 360
tctacgttgg tgttactggg ctactggct ctgacctcag nttctange ctgcattctt 420
gtcactgtct caggncctt nnagntgctg ngcgaaggaa agcgctttc acttgcgct 480
cnatcttaca ggggtggcat catctnangg ggngntgca tctttncta nntnncagg 540
tcccagctat antccaaagt nctnaaaaca ngancctcg nangannct nntattctac 600
ccttcttctg aacctncc 618

```

&lt;210&gt; 148

&lt;211&gt; 633

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;220&gt;

&lt;221&gt; variation

<222> 2, 11, 33-34, 36, 38, 346, 352, 370, 406, 412, 414, 417, 420, 423-424, 427, 434, 437, 440, 449, 452-453, 474-475, 477, 486-487, 491, 496, 499-500, 505-506, 515, 517-518, 533, 535, 537, 540, 543, 547, 549, 556, 558, 563, 568, 570, 571, 575, 577, 580, 588, 590, 593-594, 598, 607, 612, 623, 626

&lt;223&gt; n = any nucleotide

&lt;400&gt; 148

```

cntagatgca ngctcgagcg ggccgagcg tgnngnanat ctgcagaatt cgcccttcca 60
atgtattttt tctcactaac ttgtctttcc tagatctctg cttcaccacc agttctatcc 120
cccagctgct ttcaatcta ggcagcccag gcaagactat cagccacacg ggctgtgcca 180
tccagctctt catgttctg ggcctgggtg gcaagagtgt attctcttgg cagccgtggc 240
ctatgaccgc ttcattgcaa tctgcaagcc cttcactat tctgtcatta tgcacctca 300
gctgtgctgg aagttggtgt ctgtggcccc gggtgttgg actccnagc tntctaggta 360
tgctcctgn gactatgaag cttgtcacga tgcggaagat gtaagnttgc ancttncn 420
ttntngnat gccngctcn tataaaaanc annctgggcg ggccacagt cttngnata 480
gcattngtc ncttnatnn catcnnattt gcctngngt cctcgttcc cantntncan 540
tcttctntg gcttancntt ctncaccngn ncttntntan ctactcctn ttnntctc 600
cttctanctc tncatcttcc ttncntcca tcc 633

```

&lt;210&gt; 149

&lt;211&gt; 624

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

<220>  
 <221> variation  
 <222> 433, 456, 511, 513, 516, 533, 541, 543-544, 557-558, 561-562, 567, 573, 582, 597, 604, 606, 609, 617, 619  
 <223> n = any nucleotide

<400> 149  
 gatgcatgct cgagcggccg ccagtgtgat ggatatctgc agaattcgcc cttgttccta 60  
 agactataca tgaatgggtt tagcatcggg ttgaaagaac tgtaaaatag aaaaaggacc 120  
 ttctgtctgct cctcaggatg gcgggactta ggggccatgt acatgacgat ggcgctgcc 180  
 aagaagagtc ccactacgca gaggtgggag gagcaggtgg agaaggcctt tctgcggccc 240  
 tccccagact ggatcctcag gatggccgcc aggatgtgtg agtaggagac cagcaccagg 300  
 cagagtggtc ccaccaggat gaacatgcag gctgcaaaga tgaccacctg gttgagccag 360  
 gtatcagcac aggccagcct gaggacagac aggatttcac aagaagaagt gggtgatttc 420  
 acgaggccca canaaagggc agtcttagga tgaggntcac atggaccata gccaggaggg 480  
 agccacattg tcccaggaag ngntgnccag agtgatgcag acttttcagg tcntgatgat 540  
 ngntttattc ggagagnntg nnagacnggt cancgttccc gntcgtagga caattanac 600  
 ccancngng ccttcantna tgtc 624

<210> 150  
 <211> 611  
 <212> DNA  
 <213> Homo sapiens

<220>  
 <221> variation  
 <222> 449, 480, 506, 555, 578-579, 601, 608, 610-611  
 <223> n = any nucleotide

<400> 150  
 gatgcatgct cgagcggccg ccagtgtgat ggatatctgc agaattcgcc cttccaatgt 60  
 atttatttct ctctgacctc tccttcttgg acctctgctt taccacaagt tgtgtcccc 120  
 agatgctggg caacctctgg ggcccaaaga agaccatcag cttcctggga tgctctgtcc 180  
 agctcttcat cttcctgtcc ctggggacca ctgagtgcac cctcctgaca gtgatggcct 240  
 ttgaccgata cgtggctgtc tgccagcccc tccactatgc caccatcatc ccccccgcc 300  
 tgtgctggca gctggcatct gtggcctggg ttatgagtct ggttcaatcg atagtccaga 360  
 catcatccac cctccacttg ccttctgtc cccaccagca gatagatgac tttttatgtg 420  
 aggtcccatc tctgattcga ctctcctgng gagatacctc ctacaatgaa atccagttgn 480  
 ctgtgtccag tgtcatcttt ggtggntgtg cctctcagcc tcatecttgc ctcttatgga 540  
 gccactgcc aggcnggggc tgaggattaa ctttgcenna gccatggaag aaaggctctt 600  
 nggacctngn n 611

<210> 151  
 <211> 619  
 <212> DNA  
 <213> Homo sapiens

<220>  
 <221> variation  
 <222> 415, 417, 427, 516, 524, 536, 544-545, 558, 561, 575, 580, 582, 584, 590, 607, 610, 615  
 <223> n = any nucleotide

<400> 151  
 gatgcatgct cgagcggccg ccagtgtgat ggatatctgc agaattcgcc ctttctttat 60  
 ttgcaagagt atacactagt ggattgaaga gaaacaaata cataggaagg gcgaattcca 120  
 gcacactggc ggccgttact agtggatccg agctcggtac caagcttgat gcatagcttg 180  
 agtattctaa cgcgtcacct aaatagcttg gcgtaatcat ggtcatagct gtttctctgtg 240  
 tgaaattgtt atccgctcac aattccacac aacatacgag ccggaagcat aaagtgtaaa 300

```

gectgggggtg cctaatagagt gagctaactc acattaattg cgttgcgctc actgtccgct 360
ttccagtcgg gaaacctgtc gtgccagctg cattaatgaa tcggccaacg cgcggnnaga 420
ggccggnnttg cgtattgggc gctcttccgc ttctcgctca ctgactcgct gcgctcggga 480
cgtccggctg cggcgagcgg tatcagctta ctcaanggcc gtantacggt tattcncagg 540
aatnnggggt taacgccngg naaagaacat tgtgngccan angncaagcn taatgcccg 600
gaaccgntan aacgntccc
619

```

<210> 152  
 <211> 959  
 <212> DNA  
 <213> Homo sapiens

<220>  
 <221> variation  
 <222> 139, 203, 209, 211-213, 216, 221, 225, 234, 243, 245, 248, 253, 255,  
 261, 277-279, 287, 296, 302, 311, 318, 321, 344, 348, 350, 353, 376, 379,  
 381, 383, 395, 397, 402, 406-407, 414, 420, 429, 436, 438, 448, 450, 452,  
 463, 476, 481, 483, 496, 499, 502, 517, 520, 523, 527, 530, 535, 537, 539,  
 542, 549, 550, 558, 570, 571, 579, 580, 584, 587, 596, 605, 609, 634-635,  
 637-638, 640, 644, 648-649, 663, 665-666, 671, 675, 677, 681, 692, 699, 705,  
 715, 718, 721, 736, 745, 750, 758, 766, 778-779, 791, 793, 797, 811, 816,  
 821, 829, 831, 832, 837, 839, 840, 843, 846, 846, 851, 858, 883, 889, 892,  
 895, 897, 898, 917, 923, 928, 935, 945, 956  
 <223> n = any nucleotide

<400> 152  
 ctcgagcggc gcagtgtgat ggatatctgc agaattcgcc ctccctatgt attatttctc 60  
 cataatttat ctattgccga tatctgcttc tcttccatca cagcgcccaa ggttctggcg 120  
 gaccttctgt ctgaaagana gaccatctcc ttcaatcatt gctccactca gatgtttcta 180  
 ttccacctta ttggaggggc ggntgtatnt nnncentggt ncccnatgcg cctncttttc 240  
 centntctnt tcnantcttt ncgcctcttc tcatgcnnnc ccttcctctt tattctgttc 300  
 gnaatacgtc ntctccgnet nctgtctgct catccttgct gttncgtntn canctcatcg 360  
 ctgtctgtcg tacctnttnc ntctgtgtgc tgcgngntca tncacnntct caancgtctn 420  
 cctcactnnc tctttntctg ctcttctntn cncctgtgtc tancttcttg cctgntacg 480  
 ncncgcgct catatncgng tctgtgtatc cctctnntat ttnttctntn cctctnttnc 540  
 cntctacnnc acttctnctg ctctctccan ncttcgacnn ctctctnctc tccacnacgc 600  
 acttntctnt ctatatccgc tcttaccgct ctctnnnnan cacncttnc tctgcatac 660  
 agntntcttc ncaacnncat nttcttctta cnetctctnc tgtcncacag atctntcct 720  
 nctctgtctc cgttgntccc cctgncactn cgcaatcnca catatncgtc tctcttctnt 780  
 cgccacttat ntngcanctt tctctgctgt nctctnecat ntccctcnc nntctcncnn 840  
 ctatnctatc nttattcnna tcatatctcg tactgtttct gtntcttnt cntgncnct 900  
 agcttctctc tattcantct acnttctntt cgtntctat ccacnctctt cactnctt 959

<210> 153  
 <211> 375  
 <212> DNA  
 <213> Unknown (H38g1 nucleotide)

<220>  
 <223> Synthetic construct

<400> 153  
 ttggcctgtg ctgacacatc cttagccag aggggtgagct tccccgacgt tggcctcata 60  
 tctcttgtct gctttctgct aattctttta tctacacta gaatcacaat atctatctta 120  
 agcattcgta caactgaggg cgtcgccgt gcttctcca cctgcagtgc tcaacctatt 180  
 gccatctct gtgctatgg gccatcatc actgtctacc tgcagccac acccaacccc 240  
 atgctgggaa ccgtgggtaca aattctcatg aatctggtag gaccaatgct gaaccctttg 300  
 atctatacct tgaggaataa ggaagtaaaa acagccctga aaacaatatt gcacaggaca 360  
 ggccatgttc ctgag 375

<210> 154  
 <211> 965  
 <212> DNA  
 <213> Unknown (H38g2 nucleotide)

<220>  
 <223> Synthetic construct

<400> 154  
 cacacagagc cacggaatct cacagatgtc tgagaattcc tcctcctggg actctcagag 60  
 gatccagaac tgcaaccggg cctcgctttg ctctccctgt cctgtccat gtatctgggc 120  
 acggtgatga ggaacctgct cagcatcctg actgtcagct ctgtctctcc cctccacacc 180  
 cccatgtact tcttcctctc caactctgtc tgggctgaca tgggtttcac ctcgggccag 240  
 gttcccacga tgatttgtga catgcagtcg catagcagag tcatccctca tgcgggctgc 300  
 ctgacgcaga tgtattttctt ggtctttttt gcatgtatag aaggcatgct cctgactgtg 360  
 atggcctatg actgctttgt agccatctgt cgccctctgc actaccagct catcgtgaat 420  
 cctcacctct gtgtcttctt cgttttggtg tccttttttc ttagcctgtt ggattcccag 480  
 ctgcacagtt gaatttgtgtt acaattcaac atcatcaaga atgtggaaat ctctaatttt 540  
 gtctgtgacc cctctcaact tctcaaactt gcctgttctg acagcgtcat caatatcatt 600  
 ttcataatatt tcgatagtac tatgtttgct tttcttccca tttcagggat cctatggctt 660  
 actataaaat cgtccctctc attctaagga tttcatcgtc agatgggaag tataaatcct 720  
 tctccacctg tgccctctc ac tagcagttg tttgtgtgatt tgatggaaac ggcattggca 780  
 tgtacctgac ttcagctgtg tcaccacccc ccaggaatgg tgtgggtggc tcatgtatgt 840  
 acgctgtggt caccctccatg ctgaaccttt tcatctatag cctgagaaac aggaacatac 900  
 aaagtgcctt gcggaggctg cgcagcagaa cagtcgaatc tcatgatctg ttccatcgtt 960  
 tttct 965

<210> 155  
 <211> 936  
 <212> DNA  
 <213> Unknown (H38g3 nucleotide)

<220>  
 <223> Synthetic construct

<400> 155  
 atggatggag ataaccagag tgagaactca cagttccttc tcctggggat ctgagagagt 60  
 cctgagcagc agcggatcct gttttggatg ttctgttcca tgtacctggt cacggtgctg 120  
 ggaaatgtgc tcatcatcct ggccatcagc tctgattccc acctgcacac ccccatgtac 180  
 ttcttcctgg ccaacctctc cttactgac ctcttctttg tcaccaacac aatccccaag 240  
 atgctgggtga acttccagtc ccagaacaaa gccatctcct atgcagggtg tctgacacag 300  
 ctctacttcc tgggtctcctt ggtgacctg gacaacctca tcctggcctg gatggcgtat 360  
 gatcgetatg tggccacctg ctgccccctc cactatgtca cagccatgag ccctgggctc 420  
 tgtgtcttgc tcctctcctt gtgttggggg ctgtctgttc tctatggcct cctcctcacc 480  
 ttctcctgta ccagggtgac cttctgtggg cctcgagaga tccactacct cttctgtgac 540  
 atgtacatcc tgctgtggct ggcatgttcc aacaccaca tcattcacac agcgttgatt 600  
 gccactggct gcttcatctt cctcaccctc ttaggggtca tgaccacatc ctatgtacgt 660  
 attgtcagaa ccactcctta aatgccctcg gcctctaaga aatacaaaac cttctctacc 720  
 tgtgcctccc atttgggtgt ggtctccctc ttttatggga cgcttgctat ggtgtacctg 780  
 cagccctccc atacctactc catgaaggac tcagtagcca cagtgatgta tgctgtgctg 840  
 acacctatga tgaacctttt catctacagg ctgaggaaca aagacatgca tggggctccg 900  
 ggaagagtcc tatggagacc ctttcagagg cctaaa 936

<210> 156  
 <211> 914  
 <212> DNA  
 <213> Unknown (H38g4 nucleotide)

<220>  
 <223> Synthetic construct

&lt;400&gt; 156

atgaggaatc	acacattgct	gaatgaattc	attctacggg	gaataacctca	gacagagggga	60
ctggaggctg	tactctgtgc	tgtcttctca	ttcatctacc	tcttcaacct	acttggaat	120
ttactcatcc	ttatagcgat	tgtttcttca	cactcctatg	tatttcttct	tgggacgcct	180
gtctactttt	gacatattgt	tcccatctgt	aacatgtccc	aagatgctat	tgtatctctc	240
tggccagagc	ccagtcattt	cttttaaggg	atgtgcttca	cagctcttct	tctatcagtt	300
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ggtgccgggt	tgggtgggttg	tcttcacgcc	accattctga	cctcctttac	ctttcagttg	480
tctactgtg	gccccaatca	ggtggactac	ttcttctgtg	acattcctgc	tgttttacc	540
ctggcttcta	ctgacagtgc	cctggcccag	aggggtgggtt	ccataaatgt	tggctttctg	600
gctttaacac	ttttgatcag	tgtctgtgtc	tgtacacta	gcattgggat	tgccatcttg	660
agaatccgct	catcagaggg	caggcagaaa	gccttctcca	cctgcagtgc	tcacctgtgt	720
gcaatcctct	gtgcctatgg	acctgtaatc	atcatctatc	tgaagtccac	acccaacccc	780
ttgcttggtg	ccaggtgcaa	atattaaata	atgttgtctc	acccatgctg	aactcgttaa	840
tctattcctt	aaggaacaag	gaagtgaana	ggtccctgaa	aagagtattc	tgaaatgttt	900
tacttactgt	ttgt					914

&lt;210&gt; 157

&lt;211&gt; 951

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g5 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 157

atgggaacag	ataaccagac	ttgggtgagt	gaattttattc	tcctcggcct	gtccagtgac	60
tgggacactc	gggtctccct	gtttgtcctg	ttcttgggtca	tgtatgtggt	gaccgtgctg	120
gggaactgtc	tcattgtcct	tctgatcaga	ctggacagcc	gactccacac	tcccatgtat	180
ttctttctca	ccaacctctc	ccttgtcgat	gtctcctatg	ccacaagtgt	agtcctcag	240
ctgctggcac	atthttcttg	agaacataaa	gccatcccat	tccagagctg	tgcagcccag	300
ttatttttct	ccctggcctt	gggtgggatt	gagtttgttc	tcctggcggg	gatggcctat	360
gaccgctatg	tggctgtgtg	tgatgccctg	cgatactcgg	ccatcatgca	tggagggctg	420
tgtgctaggt	tggccatcac	atcctgggtc	agtggcttca	tcagctctcc	tgtgcagact	480
gctatcacct	ttcagctgcc	catgtgcaga	aacaagttaa	ttgatcacat	atcctgtgaa	540
ctcctagctg	tggtcaggct	ggcttgtgtg	gacacctcct	ccaatgaggt	caccatcatg	600
gtgtctagca	ttgttcttct	gatgacaccc	ttctgcctgg	ttcttttgtc	ctacatccag	660
atcatctcca	ccatcctaaa	gatccagtc	agagaaggaa	gaaagaaagc	tttccacacg	720
tgtgcctctc	acctcacagt	ggttgccctg	tgtatgggtg	tggccatttt	cacttacatc	780
cagccccact	ccagtccttc	tgtccttcag	gagaagttgt	tctctgtctt	ttatgccatt	840
ttaacaccaa	tgttgaaccc	catgatattac	agcctaagga	ataaagaggt	gaagggggcc	900
tggcagaaac	tattatggaa	attctcttgg	ttaacatcaa	agctggcaac	t	951

&lt;210&gt; 158

&lt;211&gt; 1025

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g6 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 158

gatacagacc	cacagagtct	aacagatgtc	tctatattcc	tcctcctcga	actctcagag	60
gatccagaac	tgcagccggg	catcgctggg	ctgttccctgt	ccatgtgcct	ggtcacgggtg	120
ctggagaaac	tgtctcatcat	catggcagtc	agccctgact	tccacctcca	cacccccatg	180
tacttcttcc	tctccaacct	gtccttgctt	gacatcggtt	tcacctccac	acgggtcccca	240
agatgattgt	ggagatccag	tctcacagca	gagtcacttc	catatgcaggc	tgcttgactc	300
agatgtctct	cttttgccatt	tttggaggca	tgggaagagag	acatgctcct	gagcgtgatg	360
gcctacgacc	agttttagtc	catctgtcac	cctcccatat	cgttcagcca	tcttgaaccc	420

gtgtttctgt	ggcttccaag	atttgttgtc	cctgtttttt	tttctttttt	tttttttttc	480
ctcaggcttt	tagactccca	gctgcataac	ttgattgcct	tacaaatgac	ctgcttcaag	540
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gacaccttca	ccaggaacat	caacctgtat	ttccctgctg	ccgtattggg	ttttcttccc	660
atctcgggga	cgctttttct	ttactgtaaa	attgtttcct	ccattctgag	ggtttcatca	720
tcagggtggga	agtataaacc	ttctccacct	gtgggtctca	cctgtctgct	gtttgctgat	780
tttatggaac	aggcgttgga	gggtatctcg	gttcagatgt	gtcatcttcc	ccgagaaaga	840
gtgcagtgga	ctcagtgatg	tatacgggtg	tcaccccat	gctgaacccc	ttcatctaca	900
gcctgagaaa	cagggatatg	aaaagtgtcc	tgcggcggcc	gcacagcagc	acgggtctaat	960
ctcaatatct	tcttatctgt	tccattcctt	ttgtagggtg	ggttaaaaaa	ggcagcaagg	1020
tcaaa						1025

&lt;210&gt; 159

&lt;211&gt; 936

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g7 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 159

atggtaaaag	gaaatcattc	cacgggtgact	gaattttaatc	tcgctgggct	aacagacaaa	60
ccagagctcc	agctgcctct	tttctctctc	ttcctgggaa	tctatgtggg	cacagtgggtg	120
ggcaacctga	gcatgatcac	tctaataagg	ttcagttctc	acctgcacac	ccccatgtac	180
catttccctca	gcagtctgtc	cttcattgat	ctctgccagt	cttctgtcat	taccccaaaa	240
atgctgggtga	atthttgtgtc	agagaggaat	attatctcct	acccagcatg	catgactcag	300
ctctactttct	tccttgtttct	tgtcataatct	gaatgtcaca	tgttggtctgc	aatggcttat	360
gaccactaca	ttgccatattg	taaccactg	ctttaccatg	tcgccatgtc	ttatcagggtc	420
tgtctcctgga	tggtagtgtga	ggtgtattttt	atgggcttta	ttggtgctac	gtgctcacac	480
agtctgcatg	ctaagagtgc	ttttctgtaa	ggctgatgta	atcaaccatt	acttctgtga	540
tcttttccca	ctactggagc	tctcccgctc	cagttattct	atcaatgaaa	tagtagtttg	600
tgtctcagtg	catttaatat	ccttttccgc	agcctcacca	tccttagctc	ttacatcttc	660
atcgttgcca	gcatectctg	cattcgctcc	actgagggca	gggtccaaaac	cttcagcact	720
tgcagctccc	acatctcggc	tgtttctgtt	ttctttgggt	ctgcagcatt	catgtacctg	780
cagccatcat	ccgtcagctc	catggaccag	gggagtgtct	tctgtgtttt	atgctactgt	840
tgtgcccattg	ctgaaccccc	aatctacagc	ctgaggaata	aagatgtcaa	agttgcctta	900
attaagttcc	ttgaaaaaag	aagtttctctg	tgaaga			936

&lt;210&gt; 160

&lt;211&gt; 985

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g8 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 160

atgggtcagg	aaaataaaaa	ccagacatgg	gtgagtgagt	tcattctgct	ggggatttcc	60
agtgattggg	gcattcaggt	atccctcttc	gccctgatec	tggccatgta	tttgggtgact	120
atthtaggaa	acaccctcat	tcttcttctg	atcagactgg	acaacaggct	tcataccccc	180
atgtactttct	cccttagtgt	tctgtcattt	gtggactttt	gttatacaaa	gagtattgtc	240
ccacaaatgc	tgtcccaatt	gctctcagcc	cgaaagtcca	tcccattcta	cagttgtgtg	300
ctccagctct	atgtttctct	ggcatttgtg	gggtcttgag	tcttctgct	gggggccatg	360
gcctatgacc	gctacgtggc	cgtgtgccac	ccactgcact	acacggtcac	catgcatgga	420
gggctgtgcc	tggggctggc	ggccagccgc	ctgggtggctg	gcttctcaaa	ttccctgatg	480
gaaacaatta	tcaccttcca	gcttctctgtg	tcacgggtgtt	atcaatcact	ttgtctgtga	540
gaccttagca	gtgctacagc	tagcctgtgt	ggatgtcccc	ttcaacaagg	tcattggtggc	600
catctcaggg	tttctggtga	tcttgccttc	ctgttccctg	gttctattct	cctatgcttg	660
catagttgcc	accattttgt	gcattcgttc	tacccaggta	cgctgcaaag	cctttggggac	720
ctgtgcctct	cacctcattg	tggtttgcat	gtgcttggg	gctaccatct	gcacctacct	780
ggggccacag	ttggcctcct	cagcagagga	agagaagatg	attgctctct	tctatggagt	840

ggtgtcaccc atgttgaacc ccttgatcta cagcttgagg aataaggaag ttacgggtgc 900  
 tgctcggaaa gttttagaaa gatgcagata aagggtcaag actctaagaa cctcttgta 960  
 tctatcatca aaaccaaaaa ggaga 985

<210> 161

<211> 954

<212> DNA

<213> Unknown (H38g9 nucleotide)

<220>

<223> Synthetic construct

<400> 161

atggacaaa gcaattatag ttctttacat ggttttatct tgcttggtt ctctaaccat	60
ccaaaaatgg agatgacct gtcaggagtt gtcgccatct tctacttaac tacattggtg	120
ggtaacacag ccacattct tgcattctct ctggattccc agcttcatac accaatgtac	180
tttttccctca gaaatttata ttccctagat ctatgtttca caaccagcat catccctcag	240
atgctgggtca acttggtggg acctgataag accatcagct atgtgggtg tatcatccaa	300
ctctatgttt acatgtgggt gggctcagtt gagtgccttc tctgggtgt tatgtcctat	360
gatcggttta cagctatatg taagcccttg cattattttg tagtcatgaa cccacatcta	420
tgtctaaaga tgattatcat gatctggagt attagtttgg ccaattctgt agtattatgt	480
acactcactc tgaatttgcc cacatgtgga aacaacattc tggatcattt ctgtgtgag	540
ttgccagctc tggtaagat agcttggtga gacaccacaa cagttgaaat gtctgttttc	600
gcttttaggca ttataattgt cctcacacct ctcatcctta ttcttatata ctatggctac	660
attgccaaag ctgtgctgag aacgaagtca aaagcaagcc agcgaagagc aatgaatacc	720
tgtggatctc atcttactgt agtgtctatg ttctatggaa ctattatcta catgtacctg	780
caaccaggta acagggtctc caaagaccag ggcaagttcc tcaccctctt ttacaccgtc	840
atcaactcaa gtctcaaccc gctcatttac accttaagaa ataaggacat gaaggatgcc	900
ctgaagaaac tgatgagatt tcaccacaaa tctacaaaaa taaagaggaa ttgc	954

<210> 162

<211> 970

<212> DNA

<213> Unknown (H38g10 nucleotide)

<220>

<223> Synthetic construct

<400> 162

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gatccagagc tgcagtcggt cctcgctttg ctgtccctgt cctgtccac gtatctggcc	120
acgggtgctga ggaacgtgct caacatcctg gctgtcagct ctgactcccc cctccacacc	180
cccattgact tcttctctc caacctgtgc tgggctgaca tgggtttcac ctcgccacg	240
gttcccaaga tgattgtgga catgcagtcg tatagtagag tcatctctca tgagggtgc	300
ctcacacaga tgtctttctt ggtcctttt gcattgtatag aaggcatgat cctgactgtg	360
atggcctatg actgctttgt agccatctgt cgccctctgc attaccagc catcgtgaat	420
cctcacctct gtgtctttt cgttttggtg tctttttcc ttagcctgtt ggattcccag	480
ctgcacagtt gaattgtgtt acaattcaac atcatcaaga atgtggaaat ctctaatttt	540
gtctgtgacc cctctcaatt tctcaaacct gcctgttctg acagcgtcat caatagcata	600
ttcacgtatt tccatagtac tatgtttggt tttcttccca ttccagggat ccttttttct	660
taatttaaaa tgcgcacctt cattctcttg atttcatctt cagatgggaa gtataaagcc	720
ttctccacct gtgactctca cctagcagtt gttctctgat tttatggaac aggcattggc	780
atgtacctga cttcagctgt gtcaccaccc ccaggaatgg tgtagtggcg tcaatgatgt	840
acgctgtggt caccctcatg ctgaacctt tcatctacag cctgagaaac agggacatac	900
aaagtgcctt gcggaggctg ctacgcagaa cagtcgaatc tcatgatctg ttccatcgtt	960
tttcttgtgt	970

<210> 163

<211> 933

<212> DNA

<213> Unknown (H38g11 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 163

atggagttgg	agaaccagac	acgagtcacc	aagttcattc	tggtgggatt	ccctgggagc	60
ttgagtatgc	gggcagccat	gtttctgata	ttccttgtag	cctatatctt	gacagtggct	120
gaaaacgtga	tcatcatcct	attggtgctg	caaaatcggc	cactgcacaa	gcctatgtac	180
ttcttcctgg	ccaacctgtc	cttcttgagg	acctgggtaca	tctctgtgac	tgtgcccagg	240
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ctgtacttct	tcattgctct	catgtgcaca	gaatgtgtgc	ttctggccgc	catggcctat	360
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atcctggcac	tggtcatctt	cctattccca	ctctttatta	ctgtcctgtc	ctacgggatgc	660
attctggcca	ccatattatg	catgcccaca	ggaaagcaga	aagcgttctc	cacttgtgac	720
tcccatcttg	tggtggtcac	cattttctat	tcagccatta	ttttcatgta	tgtctgacct	780
cgagttatcc	atgccttcaa	catgaacaaa	attatttcca	tcttctatgc	cattgtcact	840
ccttctctca	accctttcat	ttattgccta	agaaaccgag	aggccaagga	agctctgaag	900
aaactggcat	attgccaggc	cagcagatct	gac			933

&lt;210&gt; 164

&lt;211&gt; 939

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g12 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 164

atggagcaag	tcaataagac	tgtgggtgaga	gagttcgctg	tcctcggttt	ctcatccctg	60
gccaggctgc	agcagctgct	ctttgttata	ttcctgctcc	tctacctgtt	cactctgggc	120
accaatgcaa	tcatcatttc	caccattgtg	ctggacagag	cccttcatac	tcccatgtac	180
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atcatctctg	ccattctaaa	aatcccttcc	tcggttgga	gatacaagac	cttctccacc	720
tgtgcctccc	atctcattgt	ggtaactgtt	cactacagtt	gtgcctcttt	catctactta	780
aggcccaaga	ctaattacac	ttcaagccaa	gacaccctaa	tatctgtgtc	atacaccatc	840
cttaccctat	tgttcaatcc	aatgatttat	agtctgagaa	ataaggaatt	caaatacagc	900
ctacgaagaa	caatcggtca	aactttctat	cctcttagt			939

&lt;210&gt; 165

&lt;211&gt; 954

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g13 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 165

tgtgtcgatt	cttcttttaa	atgagaaatc	acacagtgat	gtctgagttt	gttactgtga	60
atggctgagg	gctggagatt	gtatttcatt	atcctgatta	tatcttataa	attttgtacc	120
cttttgagg	atgttatatt	caggaccctt	gtttgttctt	tgggatttca	cacatcatgc	180
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ctttaccttc	aacgcagaaa	tgagccatca	atgttcaggg	tgctgctgtc	catgttttct	300
cctttccttg	cctgtactgc	cccgagatct	tcttgcatte	actgacacag	tgccaccctt	360
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aagtcaaaact	gtgacctatg	caagcatata	ctaagcccta	tgccgggtctc	tctctctgtc	600
tctctcttag	tctctctctc	tctttctctc	tcttttccat	tatttccata	tcttataatct	660
gcaatgaaat	tgacatacca	aaaattatct	ctgcagacag	tgtgcatgga	gctttctcaa	720
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ccgaacttgt	gtgtgacctat	ctccttgaac	tccttgattt	ctagcctgag	aaatgaaagt	900
gtgaaacaag	cttcacataa	aattatttaa	gaacaaactt	tattcatgaa	aata	954

&lt;210&gt; 166

&lt;211&gt; 998

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g14 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 166

atggatggag	agaatcactc	agtggatatct	gagtttttgt	ttctgggact	cactcattca	60
tgggagatcc	agctcctcct	cctagtgttt	tcctctgtgc	tctatgtggc	aagcattact	120
ggaaacatcc	tcattgtgtt	ttctgtgacc	actgaccctc	acttacactc	ccccatgtac	180
ttctactagg	ccagtctctc	cttcattgac	ttaggagcct	gctctgtcac	ttctcccaag	240
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gcctttcatt	tctggctgtt	gcctggacc	ttgggtgcag	tcactccctg	ttccaactgg	480
cattttctgt	taatttacc	ttctgtggcc	ctaattgtgt	ggacagcttc	tactgtgacc	540
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ttctgaatcc	agttgtctat	acattcagga	ataaggagat	gaaggcagca	ataaagagag	900
tatgcaaa	gctagtgtat	tacaagaaga	tctcataaat	gatacaataa	gcccttctcg	960
ttaaacaatga	tatggcttta	tgtttctttc	tttgatat			998

&lt;210&gt; 167

&lt;211&gt; 966

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g15 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 167

cacacagggc	cacggaatct	cacagatgtc	tgagaattcc	tcctcctggg	actctcagag	60
gatccagaac	tgacagccact	cctcactttg	ctgtccctgt	ccctgtccat	gtatctggtc	120
acgggtgctga	ggaacctgct	cagcatcctg	gctgtcagct	ctgactcccc	cctccacacc	180
cccatgtact	tcttctctct	caacctgtgc	tgggctgaca	tcggttttac	ctaggccaca	240
gtccccaaga	tgatttgtga	catgcagtcg	catagcagag	tcattctctca	tgccggtctgc	300
ctgatacaga	tgtcttttatt	agtccttttt	gcatgtatag	aaggcatgct	cctgactgtg	360
atggcctatg	actgctttgt	agccatctgt	tgccctctgc	actaccagct	catcgtgaat	420
cctcacctct	gtgtcttctt	cgttttgggt	tcctttctcc	ttagcttgtt	ggattcccag	480
ctgcacagtt	ggatttgtgt	acaattcacc	atcatcaaga	atgtggaaat	ctctaattct	540
gtctgtgacc	cctctcatct	tctcaaaact	gcttgttctg	acagcgtcat	caatagcata	600
ttcatatatt	tcgatagtac	tatgtttggg	tttcttccca	tttcagggat	cctatgggtct	660
tactataaaa	tcgtccctct	cattctcagg	atttcatcgt	cagatgggaa	gtataaagcc	720

ttctccacct	gtgcctctca	cctagcagtt	gtttgctgat	tttatggaac	aggcattggc	780
atgtacctga	cttcagctgt	gtcaccaccc	cccaggaatg	gtgtggtggc	gtcagtgatg	840
tacgctgtgg	tcaccccat	gctgaacctt	ttcatctaca	gcctgagaaa	cagggacata	900
caaagtgcc	tgcgagggt	acgcagcaga	acagtcgaat	ctcatgatct	gttccatcgt	960
ttttct						966

&lt;210&gt; 168

&lt;211&gt; 837

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g16 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 168

atgtacctgg	ccactgtcct	ggggaacctg	ctcatcatcc	tggccataag	catagactcc	60
cgctgcaca	cccccatgta	cttcttcctc	agcaacatgt	cctttgtgga	caactgcttc	120
tccaccacgg	tccccaagat	gctggccaat	cacatactca	ggactcaaac	catctccttc	180
tctggctgtc	tcattgcagat	gtattttatc	agtgcgttg	ctgacatgga	caatttcctc	240
ctggctgtga	tggcctatga	ccgctttgtc	gccgtgtgcc	gccccttaca	ttacacagca	300
aagatgaccc	atcagctctg	tgcctgtctg	gtcactggat	catgggtggg	tgccaactcg	360
aatgctctgc	tgcacacctt	gctgatggct	cgactctcat	tctgtgcaga	caacaccatc	420
ccccacatct	tctgcgatgt	gactcccttc	ctgaaactct	cctgttcaga	cacacacctc	480
agtgaagtga	tgattcttac	tgaggctgcc	ctagtcacga	tcacccatt	tctttgcctc	540
ctggcttcct	atatgcacat	cacctgcgtt	gtcctgaggg	tcccatccac	aaagggaaga	600
tggaaagcct	tctccacctg	tggctccac	ctggctgtgg	ttctcctctt	ctatggcacc	660
atcatgtctc	catatttcag	aacttcaccc	tccactcag	ctcagagaga	tatagcagct	720
gctgtgaggt	tcacagtggg	gactcccggt	atgaatcctt	tgatctacag	cctgaggaac	780
aaggacataa	aaggggctct	tgtaaaagtg	gttgctgtga	aatttttttc	tgttcaa	837

&lt;210&gt; 169

&lt;211&gt; 770

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g17 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 169

ttcattctct	ggggtttctt	tgaccacccc	tagccggaaa	tgtttctctt	cataatgggg	60
cttggtgctt	atctctgcat	actgggtggac	aacatctcaa	ttattgtggg	acccagggga	120
tattttaggg	gagcaccaaa	tgcattcattt	tagctgtgac	gtctttggat	ccttacattg	180
ccatctgcaa	acacttgagg	taccagctta	tcattgcattc	gcaactctgt	gtcctcctag	240
tggccatggc	atggctaagc	agtttggtcca	actctacttc	agtcattcct	tgccgtccag	300
ctgccactag	gcggttaaca	ggtggacgac	tttctgtgtg	aggtctcagc	gatgatcaag	360
atatcacgtt	ttgacaccac	attcaatgta	tctatgctct	ccattgtgag	gatattttag	420
tccctcggtt	tctaataaat	tatctttgct	tactgtggat	tcattgtagc	tactgtgctg	480
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tctctcctct	atgggcctgt	aattagcatg	tatgtacagc	cctctgccaa	ctcccaggac	600
aaaaacaaat	tcattgacct	gttctacagt	ttggtgactc	ctatgcttaa	ccctttttatc	660
tacactttga	gcaacagggg	cataaaaggg	gcaatgagga	ggcttcttgt	ctttttgtat	720
caccaggaag	agaacaaaag	taattatttt	tatactccac	attcttcata		770

&lt;210&gt; 170

&lt;211&gt; 1003

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g18 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 170

tctacagacc	cacagaatgt	aacggatgtc	tctcgattcc	tcctcctcaa	actctcagag	60
gatccagaac	tgcagccggg	ccttgctggg	ctgttcctgt	ccatgtgcct	ggtcacgggtg	120
ctggggaacc	tgtcatcat	cctggccgtc	agccctgact	cccacctcca	cacttccatg	180
tactttcttc	tctccaacct	gtccttgcc	gacatcggtt	tcctctcccc	cacgggtcccc	240
aagatgggtg	tggacatcca	atctcacagc	agtcactctc	tatgcaggct	gcctgactca	300
gatgtctctc	tttgccattt	ttggaggcat	ggaagagaca	catgtcctcg	aatgtgatgg	360
cctatgtccg	gtttgtagcc	atctgtcacc	ctctatatca	ttcagccatc	atgaacctcg	420
gtttctgtgg	cttcttactt	ttgttgctct	ttttttttct	cgggtcttcta	gacgcccagc	480
tgcacaacat	gattgcctta	caaatgacct	gcttcaagga	tgtggaaatt	cctaatttct	540
tctgtgatcc	ttctcaactc	ccccatcttg	catgtttgtg	caccttcacc	aataacatca	600
tcatgtattt	ccctgctgcc	gtatttggtt	tccttcccat	ctcggggacc	cttttctctt	660
actctaaaat	tgtttctctc	attctgaggg	tttcgtcatc	aggtgggaag	tataaacctt	720
ctccacctgt	gggtctcacc	tgtcagtttt	ttgctgattt	tatggaaacag	gcattggagg	780
gtacctcagt	tcagatgtgt	catcttccct	gagaaaggct	gcagtggcct	cactgatgta	840
caagatgggc	acccccatgc	tgaacctctc	catctacagc	ctgagaaaca	gggatattaa	900
aagtgtcctg	cggcagccgc	acggcagcac	ggtctaattc	caagaccttc	ttatctgttc	960
cattcctttt	gtagtgtggg	ttaaaaaagg	cagcaaggtc	aaa		1003

&lt;210&gt; 171

&lt;211&gt; 998

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g19 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 171

atggatggag	agaatcactc	agtggatatc	gagtttttgt	ttctgggact	cactcattca	60
tgggagatcc	agctcctcct	cctagtgttt	tcctctgtgc	tctatgtggc	aagcattact	120
ggaaacatcc	tcattgtatt	ttctgtgacc	actgaccctc	acttacactc	ccccatgtac	180
tttctactgg	ccagtctctc	cttcattgac	ttaggagcct	gctctgtcac	ttctcccaag	240
atgattttatg	acctgttcag	aaagcgcaaa	gtcatctcct	ttggaggctg	catcgtctca	300
atctttcttca	tcacgtcat	tggtgggtgtg	gagatgggtg	tgctcatagc	catggccttt	360
gacagttatg	tggccctatt	aagccccctc	actatctgac	cattatgagc	ccaagaatgt	420
gcctttcatt	tctggctgtt	gcctggaccc	ttggtgtcag	tcactccctg	ttccaactgg	480
catttcttgt	taatttacc	ttctgtggcc	ctaattgtgt	ggacagcttc	tactgtgacc	540
ttctctggct	ttcagacta	gcctgtaccg	acacctacag	attgcagttc	atggtcactg	600
ttaacagtgg	gtttatctgt	gtgggtactt	tcttcatact	tgtaatctcc	tacatcttca	660
tcctgtttac	tgtttgga	cattcctcag	gtgggtcctc	caaggccctt	tcactctttt	720
cagctcacag	cacagcggtc	cttttgttct	ttgggtccacc	catgtttgtg	tatacatggc	780
cacaccttaa	ttcacagatg	gacaagtttc	tggtatattt	tgatgcagtt	ctcactcctt	840
ttctgaatcc	agttgtctat	acattcagga	ataaggagat	gaaggcagca	ataaagagag	900
tatgcaaaaca	gctagtgatt	tacaagaaga	tctcataaat	gatacaataa	gcccttcttg	960
ttaaacatga	tatggcttta	tgtttctttc	tttgatat			998

&lt;210&gt; 172

&lt;211&gt; 1018

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g20 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 172

gatacagacc	cacagagtct	aacagatgtc	tctatatctc	tcctcctcga	actctcagag	60
gatccagaac	tgcagccggg	cctcgtggg	ctgttctgtg	ccatgtgcct	ggtcacgggtg	120
ctcaggaacc	tgctcatcat	cctggccatc	agccctgact	cccacctcca	cacccccatg	180
tactttcttc	tctccaacct	gtcctttcct	gacagtcgtt	tcacctccac	cacagtcccc	240
aagatgattg	tggacatcca	gtctcacagc	agagtcactc	cctatgcagg	ctgcctgact	300
cagatgtctc	tctttgccat	ttttggagac	atggaagaga	gacatgttcc	tgagtgtggg	360

ggcctatgac	cggttttag	ccatctgtca	ccctttatat	cgttcagcca	tcttaaacc	420
ctgtttctgt	ggcttccag	attcgttgte	ctgtttttt	ttttttttt	tttctcagtc	480
tttttagactc	ccagctgcac	aacttgattg	ccttacaaat	gacctgcttc	aaggatgtgg	540
aaattcctaa	tttcttctgg	gaaccttctc	aactcccca	tcttgcatgt	tgtgacatct	600
tcaccaggaa	catcaacctg	tatttccctg	ctgccatatt	tggttttctt	cccatctcgg	660
ggacgctttt	ctcttactat	aaaattgttt	ccttcattct	gagggtttca	tcatacaggtg	720
ggaagtataa	accttctccg	cctgtgggtc	tcactctgtca	gttgtttact	gagtttatgg	780
aacaggcttt	ggagggtacc	tcagttcaga	tgtgtcatct	tccccgagaa	agggtgcagt	840
ggcctcagtg	atgtacacgg	tggtcacccc	catgctgaac	cccttcactc	acagcctgag	900
aaacggggat	attaaaagt	tcctgcggca	gccgcacggc	agcacagtct	aatctcaata	960
tcttcttattc	tgttccattc	ctttttagt	gtgggttaaa	aaaggcagca	aggtcaaa	1018

&lt;210&gt; 173

&lt;211&gt; 942

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g21 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 173

atggagacaa	gaaaatactc	tgccatgact	gaattctttc	tgggtggggct	ttcccaatat	60
ccagagctcc	agctttttct	gttcctgtct	tgccatcatca	tgtacatgat	aatcctcctg	120
ggaaatagcc	tcttcattat	catcaccatc	ttggattctc	gcctccatac	tcccatgtat	180
ttctttcttg	gaaacctctc	attcctggac	atctgtttaca	catcctcctc	cattcctcca	240
atgcttatta	tatttatgtc	tgagagaaaa	tccatctcct	tcattggctg	tgctctgcag	300
atggtttgtgt	cccttggtct	gggtccact	gagtgtgtcc	tcctggctgt	gatggcctat	360
gaccactatg	tggccatctg	caaccactg	aggtaactcca	tcatacatgaa	cggagtgtctg	420
tatgtgcaaa	tggctgcattg	gtcctggatc	ataggctgtc	tgacctccct	attgcaaaca	480
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aaacccaagt	caaagaacac	taatacatct	gatgagatta	ttgggctgtc	ttatggagtg	840
gtaagcccaa	tgttaaatcc	catcatctat	agcctcagga	ataaagaggt	caaagaggct	900
gtaaagaaag	tcctgagcag	acatctgcat	ttattgaaaa	tg		942

&lt;210&gt; 174

&lt;211&gt; 958

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g22 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 174

atgaagaata	aaaggaatgt	gactgaattc	gttttaacag	gtcttacaca	gaaccctaaa	60
atggagaaag	tcattgtttgc	agtatttttg	gttcttttaca	tgataaacact	ttcaggcaac	120
ctgctccttg	tggttacaat	taccaccagc	caggctctta	gctcccccat	gtacttcttc	180
ctgagccacc	tttctttgat	agacacagtt	tattcttctt	cttcagctcc	taagttgatt	240
gtcgattccc	ttcatgagaa	gaaaatcatc	tccttttaag	gggtgatggc	tcaagcctat	300
gaagaacaca	tttttgggtg	tactgagatc	atcctgtga	cagtgatggc	ctgtgacaac	360
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cctttgttaa	aacttgtttg	cctggacact	catacccttg	gtctctttgt	tgctgccaac	600
agtgggttca	tctgcttatt	aaacttctct	ctctaggtgg	tatcctatgt	gatcatcttg	660
agatgtttta	agaactatata	cttggagggg	aggggtaaag	ccctctccac	ctgtatttct	720
cacatcataa	tagttgtctt	attctttgtg	ccttgtatat	ttgtgtatct	gcacccagtg	780
acaaactctg	cccattgata	aagctgctgc	tgtattttat	actatgggtg	tcccaatggt	840

aaatcctttg atctacacac tcagaaatgc tgaggtaaaa agtgcaataa ggaagctttg 900  
 gagaaaaaaa gttatttcag ataatgacta aataagacca ttgagcactc atcataga 958

<210> 175.

<211> 933

<212> DNA

<213> Unknown (H38g23 nucleotide)

<220>

<223> Synthetic construct

<400> 175

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ctggagacta	ttctgttggt	cctgtttttg	tccttctaca	tcttcaccct	tatggggaac	120
ctgctcatct	tgtctgctat	tgtctcctct	gctcggtctc	acacgcccac	gtacttcttc	180
ctgtgcaagc	tgtctgtttt	tgacctatct	ttcccttctg	tgagttcccc	taagatgctg	240
tgctatcttt	caggggaacag	cagagccatc	tcctatgcag	gctgtgcac	ccagctcttc	300
ttctaccatt	tcctgggctg	cactgagtgt	ttcctgtaca	cggatgagc	ctacgaccgc	360
tttgttgcca	tttgtcacc	tctacgctac	accataatca	tgagccacag	agcatgtatc	420
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acctccaat	tgccctactg	tgtccccaat	gaggtggact	attatttctg	tgatatccca	540
gtcatgctga	agctggcttg	tgcagatacc	tcagccctgg	agatgggtggg	gttcatcagt	600
gtgggcctca	tgccctcag	ctgtttcctt	ctcctcctca	cctcctacag	tggcatcgtc	660
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ctgaaccct	taatctacag	tctcaggaat	aaggaggtga	aattatcact	aaggaaggtc	900
ttatatcagc	tgggcttctt	tcctgagcag	ttg			933

<210> 176

<211> 906

<212> DNA

<213> Unknown (H38g24 nucleotide)

<220>

<223> Synthetic construct

<400> 176

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gtacagagag	ttctctttgt	ggtctttttg	ctgatctatg	tggtcacggg	ttgtggcaac	120
atgctcattg	tggtcactat	cacctccagc	cccacgctgg	cttccccctg	gtattttttc	180
ctggccaacc	tatcctttat	tgacaccttt	tattcttctt	ctatggctcc	taaactcatt	240
gctgactcat	tgtatgaggg	gagaaccatc	tcttatgagt	gctgcatggc	tcagctcttt	300
ggagctcatt	ttttgggagg	tgttgagatc	attctgctca	cagtgatggc	ttatgaccgc	360
tatgtggcca	tctgtaagcc	cctgcacaat	actaccatca	tgaccaggca	tctctgtgcc	420
atgctttag	gggtggcttg	gcttgggggc	ttcctgcatt	cattgggtca	gctcctcctg	480
gtcctttggg	tgcccttctg	tgggcccac	gtgatcaatc	actttgcctg	tgacttgtac	540
cctttgctgg	aagtggcctg	caccaatacg	tatgtcattg	gtctgctggg	ggttgccaac	600
agtggtttaa	tctgcctgtt	gaacttcctc	atgctggctg	cctcctacat	tgatcatcctg	660
tactccttga	ggtcccacag	tgcagatggg	agatgcaaa	ccctctccac	ctgtggagcc	720
cacttcattg	ttgttgccct	gttctttgtg	ccctgtatat	ttacttatgt	gcatccattt	780
tctactttac	ctatagacaa	aaatatggca	ttattttatg	gtattctgac	acctatgttg	840
aatccactca	tttataccct	gagaaatgaa	gaggtaaaaa	atgccatgag	aaagctcttt	900
acatgg						906

<210> 177

<211> 798

<212> DNA

<213> Unknown (H38g25 nucleotide)

<220>

## &lt;223&gt; Synthetic construct

&lt;400&gt; 177

atgatcacac	tgattgggct	cagttctcac	ctgcacacac	ctatgtacta	tttctcagc	60
agtctgtcct	tcattgactt	ctgccattcc	actgtcatta	cccctaagat	gctggggaac	120
tttgcgacag	agaagaacat	catctcctac	cctgaatgca	tggtcagct	ctatttatct	180
agtatttttg	ctattgcaga	gtgtcacatg	ttggctgcaa	tggtgatga	ctgttatgtt	240
gccatctgca	gccccttgct	gtacaatgtc	atcatgtcct	atcaccactg	cttctggctc	300
acagtgggag	tttacatctt	aggcatcctt	ggatctacaa	ttcataccag	ttttatgttg	360
agactctttt	tgtgcaagac	taatgtgatt	aaccattatt	tttgtgatct	tttccctctc	420
ttggggctct	cctgtctccag	cacctacatc	aatgaattac	tggttctggg	cttgagtgca	480
tttaacatcc	tgatgcctgc	cttaaccatc	cttgcttctt	acatctttat	cattgccagc	540
atcctccgca	ttcactccac	tgagggcagg	tccaaagcct	tcagcacttg	cagctccac	600
atcttggtcg	ttgctgtttt	ctttggatct	gcagcattca	tgtacctgca	gccatcatct	660
gtcagctcca	tggaccagag	gaaagtgtcg	tctgtgtttt	atactactat	tgtgcccag	720
ctgaaccccc	tgatctacag	cctgaggaat	aaagatgtca	aacttgccgt	gaagaaaatt	780
ctgcatcaga	cagcatgt					798

&lt;210&gt; 178

&lt;211&gt; 954

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g26 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 178

atgggaaact	ctaatacagtc	tttcatgaca	gaatttgctc	tgctggggct	ttctggctac	60
ccagagctag	aggccattta	ctttgtgctg	gtcctatgta	tgtatttggt	gatcctgttg	120
ggaaatggag	tcatacatcat	tgtgagtgtt	tatgacaccc	acttgacacac	ccccatgtac	180
tttttctcca	gtaacttatc	attcttggac	atctgtctaca	ctagtctcatc	tattccacta	240
tttctcagca	gcttcttaac	gtcaaagaaa	actatttctc	tctctgggtg	tggagtgcaa	300
atgtttctct	cttttgctat	gggagcaaca	gagtgtgtcc	ttctaagtat	gatggcgttt	360
gactgctatg	tggccatctg	taaccctcta	tgatacccta	tcatacatgag	caaggcttca	420
tacatgtcca	tggctgcggg	gtcctggatt	ggaggaggca	tcaattctgt	gttgcaaacc	480
tcccttgcaa	tgcggcttcc	tttctgtgga	gataacgtca	ttaatcattt	tacttggtgaa	540
atcttggtcg	tcttaaaaatt	ggcctgtgct	aatatctcca	taaatattat	tagcatgggt	600
gttgctagta	tgatttttct	tgtagggcca	gtacttttta	tttttggttac	atatgttttt	660
attctctcca	ccatccttag	aattccttct	gcagaaggaa	ggcacaaaagc	ctcctccacc	720
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aagcccaagg	ctaaagactc	ttctggtgca	gacaaagaac	aagtcacaga	caaaatcatc	840
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aaagacgtga	aggcagctgt	gaagagtata	ctgtgacaaa	aatgcttctt	ggaa	954

&lt;210&gt; 179

&lt;211&gt; 984

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g27 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 179

aaatctatga	aaaagatgaa	caatgtaata	gaattcatatc	tgctgggcct	cactcacaat	60
ccagaactgc	agaaattctt	gtttgttatg	tttttaataca	cctacttgat	cacattggca	120
ggtaacctgt	tcatactcag	catcatcttc	atcagcccag	ccctgggttc	ccccatgtac	180
tcttttccgt	cctatttggt	cattatagac	attttctgct	cttcttccat	agccccataa	240
atgaactttg	acttgatctc	tgaaaagaac	accatatcct	tcaatggctg	catgactcag	300
ctcttcacag	aacatttctt	tacagaacat	ttctttgagg	cagctgagat	catcttatta	360
agtgtcatgg	cctatgacca	ctatgtggcc	atccgtaagc	ccttgacta	tgcaaccatc	420
atgagccaac	ctatgtgtgg	attcctgatg	gtggtggctg	ggattctggg	atttgtgcat	480

ggaggggagcc	agactttggt	catagcccag	ttaccattct	gtggccccc	tgatcatcaac	540
cacttttatgt	gtgatttagt	acctcttctg	gagctggcct	gcacagacac	tcacaccttg	600
gggcctctga	ttgctgccaa	cagtgggtca	ctgtgtttcc	tcattttttc	catgctgggt	660
gcttccatg	tcatactct	gtgcttctg	aggactcata	gctctgaagg	gcgtcgcaaa	720
gctctgtcta	gttggtgctc	tcatactctc	attgtcatct	tattctttgt	ccctttttca	780
tacctgtatc	taagacctaa	cctccttccc	cactgacaaa	gctgtgactg	tgttttgcac	840
cctattttaca	cctatgttga	accctttaat	ctacaccctc	aaaaataaag	aagtgaaaaa	900
tgatcattaag	aagctctgga	agcaataaat	gacaactgat	gataaataag	tcttgtgaca	960
caaacattta	ggcaagaata	tctg				984

&lt;210&gt; 180

&lt;211&gt; 954

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g28 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 180

atggaatggg	aaaaccacac	cattctggtg	gaattttttc	tgaagggact	ttctgggtcac	60
ccaagacttg	agttactctt	ttttgtgctc	atcttcataa	tgtatgtggt	catccttctg	120
gggaatggta	ctctcatttt	aatcagcatc	ttggaccctc	accttcacac	ccctatgtac	180
ttctttctgg	ggaacctctc	cttcttggac	atctgtctaca	ccaccacctc	tattccctcc	240
acgctagtga	gcttcttttc	agaaagaaa	accatttccc	ttctggtctg	tgcagtgcag	300
atgttccctg	gcttggccat	ggggacaaca	gagtgtgtgc	ttctgggcat	gatggccttt	360
gaccgctatg	tggctatctg	caaccctctg	agatatccca	tcatacatgag	taaggatgcc	420
tatgtaccca	tggcagctgg	gtcctggatc	ataggagctg	tcaattctgc	agtacaatca	480
gtgtttgtgg	tacaattgcc	tttctgcagg	aataacatca	tcaatcattt	cacctgtgaa	540
attctggctg	tcataaaact	ggcctgtgct	gacatctcag	acaatgagtt	catcatgctt	600
gtggccacaa	cattgttcat	attgacacct	ttgttattaa	tcattgtctc	ttacacgtta	660
atcattgtga	gcatactcaa	aattagctct	tccgagggga	gaagcaaagc	ttcctctacc	720
tgttcagccc	atctgactgt	ggtcataata	ttctatggga	ccatcctctt	catgtacatg	780
aagcccaagt	ctaaagagac	acttaattcg	gatgacttgg	atgctaccga	caaaattata	840
tccatgttct	atgggggtgat	gactcccatg	atgaatcctt	taatctacag	tcttagaaac	900
aaggatgtga	aagaggcag	aaaacaccta	ctgaacagaa	ggttcttttag	caag	954

&lt;210&gt; 181

&lt;211&gt; 792

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g29 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 181

atggtagaca	acctaatcat	tgtggtgaca	atcaccacca	gcccagccct	ggactccccc	60
gtgtattttt	ttctgtcttt	cttttctctc	atagatggct	gctcctcttc	taccatggcc	120
cccaaaatga	tatttgactt	actcactgaa	aagaaaacta	tttcttctag	tgggtgcatg	180
accagctct	ttgtagaaca	tttctttggg	ggagttgaga	tcattctgct	cgtggtgatg	240
gcctatgact	gctatgtggc	catctgcaag	ccccgtact	acctgatcac	aatgaacagg	300
caggtatgtg	gcctcctggg	ggccatggca	tgggtcgggg	gatttcttca	cgctctgatt	360
caaatgcttt	taatagtctg	gctgcccttc	tgtggcccca	atgtcattga	ccatttctac	420
tgtgaccttt	ttcctctgct	aaaactctcc	tgcactgaca	ctcacgtctt	tggactcttt	480
gttgccgcca	acagtgggct	gatgtgtatg	ctcatttttt	ctattcttat	tacctcttac	540
gtcctaatac	tctgtccaca	gcggaaggct	ctctctacct	gcgccttcca	tatcactgta	600
gtcgtcctat	tctttgttcc	ctgtatatgt	gtgtaccttc	gacctatgat	caccttccct	660
attgataaag	ctgtgtctgt	gttttatact	gtggaacac	ccatgttaaa	ccctttaatc	720
tacacctca	gaacacaga	ggtgaaaaat	gccatgaagc	agctctggag	ccaaataatc	780
tggggtaaca	at					792

&lt;210&gt; 182

<211> 936  
 <212> DNA  
 <213> Unknown (H38g30 nucleotide)

<220>  
 <223> Synthetic construct

<400> 182

atgtggccca	atattactgc	agcccccttt	ttgctgactg	gttttccagg	gctggaggca	60
gctcateact	ggatctccat	ccccctcttt	gctgtttatg	tgtgcatcct	tctgggcaat	120
ggcatgctcc	tctacctcat	caagcatgac	cacagtcttc	atgagcccat	gtactatttc	180
ctcaccatgc	tggcaggcac	agacctcatg	gtgacattga	ccacgatgcc	tactgtaatg	240
ggcatcctat	gggtgaatca	cagggagatt	agcagtgtgg	gctgcttcct	acagggttac	300
tttattcact	ccctttctgt	tgtggaatca	ggttccctcc	tggcaatggc	atatgatcgt	360
ttcattgccca	tccgcaatcc	tttgagatat	gcttccattt	tcaccaatac	tagagtcata	420
gcgttaggag	tgggagtgtt	tctaaggggt	tttgtatcca	tcctgcctgt	aattttgcgt	480
cttttttcat	tttcatattg	caaatctcat	gttatcacac	gtgctttctg	cctccaccaa	540
gaaatcatga	gactggcttg	tgtgacata	actttcaata	gactttaccc	tgtaatTTtg	600
atctctttta	caatcttctc	agactctctg	atcatcctct	tctcctatat	tctaattctt	660
aatactgtca	taggcattgc	ctctggtgaa	gagagagcca	aagccctcaa	tacctgtatc	720
tcccacatta	gttgtgttct	tatcttctat	gttacgggtga	tgggtttgac	attcatttac	780
agatttgagg	agaatgtgcc	agaggttgct	cacattatca	tgagttacat	ctacttcctc	840
tttctctctt	taatgaacce	tgtcatctac	agcatcaaaa	ccaagcaaat	acaatatggc	900
attatccgcc	ttttatctaa	acatagggtt	agtagg			936

<210> 183  
 <211> 854  
 <212> DNA  
 <213> Unknown (H38g31 nucleotide)

<220>  
 <223> Synthetic construct

<400> 183

gacacagagc	cacagaatct	cacagctgtc	tcagaattcc	tcctcctggg	actctcagag	60
gatccagaac	tgcagcccat	cctcgctggg	ctcttcctgt	ccatgtacct	ggtcacgggtg	120
ctgggggaacc	tgtcatttat	cctggccatc	ggctctgact	cccacctcga	cacccccatg	180
tacttcttcc	tctccaacct	gtccttgccct	gacatcggtt	tcacctcggc	cacgggtcccc	240
aagatgattg	aggagatgca	atcgcatagc	agagtcattc	accatgggga	ctgctgacac	300
agatgtcttt	ctttgtcctt	tttgcattga	aggatgacat	gatcctgact	gtgatggcct	360
atgactgggt	tgtggccatc	tgtcaccccc	tgaactaccc	aggcatcatg	aatcctcacc	420
tctgtgtctt	attagttttg	gtgccttttt	tccttagcct	gttggattcc	cagctgcaca	480
atttgattgt	gttacaattc	atctgcttca	agaatgtgga	aatctcctaat	tttttctgtg	540
acccgtttca	acgtctcaac	cttgccctgtt	ctgacagtga	catcaataac	atatacatat	600
atttagatag	tactatattt	ggttttcttc	gcatttcagg	gatccttttg	tgttactata	660
cagttgtctt	ccccattcta	agaattccat	cctcagatgg	gaattataaa	gccttctcca	720
cctgaggtc	tcgcctggca	gttgtttgct	tattttatgg	aacaggcatt	ggcgtgtacc	780
tgacttccgc	tgtgtcatca	tccccaggga	atgatgtggg	ggcgtcagta	atgtacgctg	840
tggtgggtcac	cccc					854

<210> 184  
 <211> 951  
 <212> DNA  
 <213> Unknown (H38g32 nucleotide)

<220>  
 <223> Synthetic construct

<400> 184

atgggtgaga	taaaccagac	acttgtgtca	gaatttcttc	ttctgggtct	ttctggatac	60
ccaaagattg	agattgttta	ctttgctctc	attctagtta	tgtacctagt	gatttctaatt	120

ggcaatggtg	ttctaatacat	agccagcattc	tttgattctc	atcttcacac	accaatgtac	180
ttcttcctgg	gcaacctctc	tttctggat	atctgctata	catcctcctc	tggtccctca	240
acattggtga	gcttaatactc	aaagaaaaga	aacatttctc	tctctggatg	tgcatgagc	300
atgttctttg	ggtttgcaat	gggggtcaaca	gaatgtctgc	ttcttggcat	gatggcattt	360
gacgttatg	tggccatctg	caacccactg	agatacccca	tcacctctgag	caagggtggcg	420
tatgtattga	tggcttctgt	gtcctggctg	tccgggtggaa	taaattcagc	tggtgcaaaca	480
ttacttgcca	tgagactgcc	tttctgtggg	aataatatta	tcaatcattt	cgcatgtgaa	540
atattagctg	tcctcaagct	ggcctgtgct	gatatatccc	tcaatattat	caccatgggtg	600
atatcaaata	tggccttctc	ggttcttcca	ctgatgggtca	tttttttctc	ctatatgttc	660
atcctctaca	ccatcttgca	aatgaattca	gccacaggaa	gacgcaaggc	attttccacg	720
tgctcagctc	acctgactgt	ggtgatcata	ttttacggta	ccatcttctt	tatgtatgctg	780
aaaccgaagt	ctcaagacct	gattgggggaa	gaaaaattgc	aagcattaga	caagctcatt	840
tctctgtttt	atggggtagt	gacacccatg	ctgaatccta	tactctatag	cttgagaaat	900
aaggatgtaa	aagctgctgt	aaaatatttg	ctgaacaaaa	aaccaattca	c	951

&lt;210&gt; 185

&lt;211&gt; 927

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g33 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 185

atgggtgcca	agaacaatgt	gactgagttt	gttttatttg	gcctttttga	gagcagagag	60
atgcagcata	catgctttgt	ggtattcttc	ctctttcatg	tgctcactgt	cctgggggaa	120
cttctgggtca	tcataccat	caatgctaga	aagaccctga	agtctcccat	gtattttctc	180
ctgagccagt	tgtcttttgc	tgacatatgt	tatccatcca	ctaccatacc	caagatgatt	240
gctgacactt	ttgtggagca	taagatcatc	tccttcaatg	gctgcatgac	ccagctcttt	300
tctgcccact	tctttgggtg	cactgagatc	ttcctcctta	cagccatggc	ctatgaccgc	360
tatgtggcca	ctgtaggcc	cctgcactac	acagccatca	tggattgccg	gaagtgtggc	420
ctgctagcgg	gggcctcctg	gtagctggc	ttcctgcatt	ccatcctgca	gacctcctc	480
acgggttcagc	tgcttttttg	tgggcccatt	gagatagaca	acttcttctg	tgatgttcat	540
cccctgctca	agttggcctg	tgcagacacc	tacatggtag	gtctcatcgt	ggtggccaac	600
agcggtatga	tttcttttagc	atcctttttt	atccttatca	ttcctatgt	tatcatctta	660
ctgaacctaa	gaagccagtc	atctgaggac	cggcgtaagg	ctgtctccac	atgtggctca	720
cacgtaatac	ctgtcctttt	ggttctcatg	ccccccatgt	tcatgtacat	tcgtccctcc	780
accaccttgg	ctgctgacaa	acttatcatc	ctcttttaaca	ttgtgatgcc	acctttgctg	840
aaccttttga	tctatacact	aaggaacaac	gatgtgaaaa	atgccatgag	gaagctgttt	900
aggggtcaaga	ggagcttagg	ggagaag				927

&lt;210&gt; 186

&lt;211&gt; 987

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g34 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 186

gctacttgcc	acttgtgaac	acacaatgcg	gctccttttt	tgtctgctgg	cttttcagta	60
ctggaggcaa	cttatcactc	gatctccatc	cccttctttg	ctgttttatgt	gtgcgtcctt	120
cttggaatg	gcaagctcct	ctacctcatc	aagcatgacc	acagtcttca	cgaacccatg	180
tactgtttcc	ttgccacact	gaggcaagac	ctcatgggtga	aattgaccat	gatgccact	240
gtaatgggcg	tcttgtggat	gaatcacaaa	gagggttatcc	atggggcctg	cttcttgcag	300
gtttacatta	tcactccca	ttatccactt	gcagaatcag	gtattctcct	gtcaatggcc	360
tatgaccgtt	tcattatcat	ccacatgctt	ctcagggtata	actctatttc	tactaaatct	420
tgggtgaaga	tagaactgtg	gctattttatg	agggaactttt	tatccctcgt	gcctccaatt	480
ctgccactcc	attgcttccc	atattgtcat	tcccatgttc	tcttccacac	cttttttctc	540
catcaagatg	tcctgaaact	tgccgtgtgct	gatattacat	tcaatcactt	ataccagct	600
attctgggtg	cttttgatttt	cttcttagac	gctctgatca	ttgtcttttc	ttatatcctg	660

atccttaaaa	cagttatagg	tattgcctcc	agaaaagagc	aagccaaagc	tctcaacatg	720
tgtgtctccc	atatcagctg	tgtcttggtg	tttcacatca	ccgtgatcag	tgagactttc	780
attcacaggt	ttgggaaaca	tgcaccacat	gtggtgcaca	ttaccgtgag	ctaatacttc	840
atttcttttt	cctccattca	tgaaccttat	tatatcacgc	atcaaaccac	gcagatccaa	900
agaagcattg	ttcgccctatt	ttctggggcac	agaatgggctt	gagccctttt	ttcagaattt	960
tgtgatcttc	atgattttctg	ggccttt				987

&lt;210&gt; 187

&lt;211&gt; 887

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g35 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;221&gt; misc\_feature

&lt;222&gt; (1)...(887)

&lt;223&gt; n = A,T,C or G

&lt;400&gt; 187

ctgctgctcc	tggtgctcct	gctgcccacg	ttcctgctga	gtcttntggg	gaacntgctc	60
atcatctcca	ctgtgctgtc	ctgctcccg	ctccacaccc	ccatgacttc	ttcttgtgca	120
acctctctat	cctggacatc	ctcttcacct	cagtcacttc	tccaaaagt	ttggccaact	180
taggatctag	ggataaaacc	atctcctttg	cgggatgtat	caccagtg	tatttctact	240
ttttcttggg	cacagttgag	ttcctcctgc	tgacgggtcat	gtcctatgac	tgctatgccg	300
ccatctgctg	ccccctgcg	tacaccacca	tcattgagacc	ttatgtctgc	attgggaccg	360
ttgtgttctc	ttgggtggga	ggcttcctgt	ctgtgctctt	tccaaccatc	ctcatctccc	420
agctgccctt	ctgtggctcc	aatatcatta	accacttctt	ctgtgacagt	ggacccttgc	480
tgccctggc	ctgtgcagac	accactgcca	tcgagctgat	ggattttatg	ctttcttcca	540
tggtcatcct	ctgctgcata	gtcctcgtgg	cctattccta	tacgtacatc	atcttgacca	600
taatgcgc	tccttctgca	agtggaagga	agaaggcctt	taatacctgt	gcttcccacc	660
tgaccatagt	catcatttct	agtggcatca	ctgtgtttat	ctatgtgact	ccctcccaga	720
aagaatatct	ggagatcaac	aagatccctt	cggttctgag	cagtttggtg	actccattcc	780
tcaaccctt	tatatatact	ctgaggaatg	acacagtgc	gggagtcctc	agggatgtgt	840
gggtcaggg	tcgaggagtt	ttcgaaaaga	ggatgagggc	agtgctg		887

&lt;210&gt; 188

&lt;211&gt; 930

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g36 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 188

atgtggtata	acaacagtgc	tgcccccttc	ttgctgactg	gcttcttggg	ctcagaggca	60
gttcactacc	ggatctctat	gtccttcttt	gtcatctact	tctccgtcct	ttttggaaat	120
ggcactcttc	ttgtcctcat	ttggaatgat	cacagcctcc	atgagcccat	gtactacttc	180
ctggctatgc	tggcagacac	ggaccttggg	atgacattca	ctacaatgcc	cacagtcctg	240
ggtgtcctgc	tgctagacca	gagggagatt	gcccattgtg	cctgtttcac	ccaatccttc	300
attcattcac	tggccattgt	agaatcaggt	atcttgcctg	ttttggccta	tgactgtttc	360
attgccatcc	gcacaccact	gaggtacaac	tgcattctta	ccaattccc	agtgatgaac	420
ataggactgg	gggtactgat	gagagggttt	atgtccattt	tgcccataat	tctttcactc	480
tactgctacc	catattgtgg	ttcccgtgcc	ctcttgacac	cattttgcct	ccatcaagat	540
gtcataaaac	tcgcctgtgc	tgatatcacg	tttaatcaca	tatatccaat	tattcagact	600
tctttgactg	tctttttaga	tgctctaate	atcatctttt	cttatatact	aatccttaag	660
acagtgatgg	gcattgcgtc	tggaacaagag	gaagctaaat	ctctcaacac	ttgtgtctcc	720
catattagct	gtgtcctagt	atttcacatc	actgtgatgg	gactgtcatt	cattcacagg	780
tttgggaaac	atgcacctca	tgtgggtccc	attaccatga	gctatgtcca	ttttctcttt	840
cctccattcg	tgaatcctat	catttatagc	atcaagacca	agcagattca	aagaagcatt	900
attcgccat	tttctgggca	gagtagggct				930

<210> 189  
 <211> 996  
 <212> DNA  
 <213> Unknown (H38g37 nucleotide)

<220>  
 <223> Synthetic construct

<400> 189  
 cacacagagc cacggaatct cacagggtgtc tgagaattcc tcctccttgg actcccagag 60  
 gatccagaac tgcagccggt tctcgttttg ctctccctgt ccctgtccat gtatctgggc 120  
 acggtgctga ggaacctgct catcatcctg gctgtcagct ctgtctctcc cctccacacc 180  
 cccatgtact tcttcctctc caacctgtgc tgggctgaca tcggtttcac ctcgccacg 240  
 gttcccaaga tgattgtgga catgcagtcg catagcagag ccatctctca tgcgggctgt 300  
 ctgacgcaga tgtctttctt gttccttttt gcattgtatag aaggcatgct cctgactgtg 360  
 atggcctatg actgctttgt agccatctgt cgccctctgc actaccacgt catcgtgaat 420  
 cctcacttct gtgtcttctt cgttttgggt tcttttttcc ttagcctgtt ggattcccag 480  
 ctgcacagtt ggattgtgtt acaattcacc atcttcaaga atgtggaaat ctctaatttt 540  
 gtctgtgacc cctctcaact tctcaaactt gcctgttctg acggcgctcat caatagcata 600  
 ttcatatatt ttgatagtag tatgtttggg ttccttccca ttccagggat cctatgggtct 660  
 tactataaaa tcgtccctct cattctaagg atttcatcgt cagatgggaa gtataaagcc 720  
 ttctccacct gtggctctca ccaggcagtt gtttgcgtgat tttatagaac aggcattggc 780  
 atgtacctga cttcagctgt gtcaccaccc ccaggaatg gtgtgggtggc atcattgata 840  
 tacgtgttg tcaactccat gctgaacctt ttcattctaca gctgagaaa caggacata 900  
 caaagtgcc tcgggaggt gctcagcaga acagtcgaat ctcatgatct gttccatcct 960  
 ttttcttggg gggtgagaaa gggcaaccac attaaa 996

<210> 190  
 <211> 930  
 <212> DNA  
 <213> Unknown (H38g38 nucleotide)

<220>  
 <223> Synthetic construct

<400> 190  
 atgggagaca atataacatc catcagagag ttctctctac tgggatttcc cggtggccca 60  
 aggattcaga tgctcctctt tgggctcttc tccctgttct acgtcttcac cctgctgggg 120  
 aacgggacca tactggggct catctcactg gactccagac tgcacgccc catgtacttc 180  
 ttctctctac acctggcggt cgtcgacatc gcctacgcct gcaacacggt gccccggatg 240  
 ctgggtgaacc tcctgcaccc agccaagccc atctcctttg cgggcccgcg gatgcagacc 300  
 tttctgtttt ccacttttgc tgtcacagaa tgtctctctc tgggtgggtgat gtcctatgat 360  
 ctgtacgtgg ccatctgcca cccctccga tatttggcca tcatgacctg gagagtctgc 420  
 atcacccctg cgggtgacttc ctggaccact ggagtccttt tatccttgat tcatcttgtg 480  
 ttactttctac ctttaccctt ctgtaggccc cagaaaattt atcacttttt ttgtgaaatc 540  
 ttggctgttc tcaaacttgc ctgtgcagat acccacatca atgagaacat ggtccttggcc 600  
 ggagcaattt ctgggctggg gggacccttg tccacaattg tagtttcata tatgtgcac 660  
 ctctgtgcta tccttcagat ccaatcaagg gaagttcaga ggaaagcctt ccgcacctgc 720  
 ttctcccacc tctgtgtgat tggactcgtt tatggcacag ccattatcat gtatgttggg 780  
 cccagatatg ggaaccccaa ggagcagaag aaatatctcc tgctgtttca cagcctcttt 840  
 aatcccatgc tcaatccct tatctgtagt cttaggaact cagaagtga gaatactttg 900  
 aagagagtgc tgggagtaga aagggttta 930

<210> 191  
 <211> 968  
 <212> DNA  
 <213> Unknown (H38g39 nucleotide)

<220>  
 <223> Synthetic construct

&lt;400&gt; 191

cacacagagc	cacggaatct	cacgggtgtc	tgagaattcc	tcctcctggg	aatctcagag	60
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ctgaggaacc	tgctcatcat	cctggctgtc	agctctgact	cccacctcca	cacctccatg	180
tacttcgtcc	tctccaacct	gcgctgggtt	gacatcggtt	tcacctcggc	cacggttccc	240
aagatgattg	tggacatgca	gtcgcatagc	agagtcattc	cttatggggg	ctgcctgaca	300
cagatgtcct	tcttgggtct	ttttgcatgt	atagaagaca	tgctcctgac	tgtgatgtcc	360
tatgaccaat	ttttggccat	ctgtcacccc	ctgcactacc	cagtcacgt	gaatcctcac	420
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agatggattg	tgttacaatt	caccttcttc	aagaatgtgg	aaatctctaa	ttttgtctgt	540
gagccatctc	aacttctcaa	ccttgccctg	tctgacagcg	tcataaatat	catattcata	600
tatttagata	gtactatgtt	tggttttctt	cccatttcag	ggatcctttt	gtcttactat	660
aaaattgtcc	cctccattct	aaggatgtca	ttgtcagatg	tgaagtataa	agccttctcc	720
acctgtggct	ctcacctggc	agttttttgc	ttattttacg	gagcaggcat	tggcgtgtac	780
ctgacttcag	ctgtgtcacc	accttccggc	aatgggtgtg	tggcttcagt	gatgtacact	840
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gccccgtgga	ggctgctgca	cacaacagtt	gaatctcatg	atctcttcca	tcctttttct	960
tgtgtctg						968

&lt;210&gt; 192

&lt;211&gt; 960

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g40 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 192

cacacagagc	cacagaatct	cacaggtgtc	tgagaattcc	tcctcctggg	actctcagag	60
gatccagaac	tgcagcccat	cctggctggg	ctgtccctgt	ccatgtatct	ggtcacgggtg	120
ctgaggaacc	tgctcatcat	cctggctgtc	agctctgacc	cccacctcca	cacccccatg	180
tgttcttccc	tctccaacct	gtgctgggct	gacatcggtt	tcaccttggc	cacggttcct	240
aagatgattg	tggacatgca	gtctcatacc	agagtcattc	cttatgaggg	ctgcctgaca	300
cggtatctct	tcttgggtct	ttttgcatgt	atagaagaca	tgctcctgac	tgtgatggcc	360
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gacctctctc	aacttctcaa	acttgccctg	tctgacagcg	tcataaatag	catattcatg	600
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ctgacttcag	ctgtgtcacc	acccccagg	aatgggtgtg	tagcgtcagt	gatgtacgt	840
gtggtcaccc	ccatgtcgaa	ccttttcatc	tacagcctga	gaaacaggga	catacaaagt	900
gccttgcgga	ggctgctcag	cagaacagtc	gaatctcatg	atctgttcca	tcctttttct	960

&lt;210&gt; 193

&lt;211&gt; 980

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g41 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 193

tctacagact	gacagagtct	aacaggtgtc	tctatattcc	tcctcctaga	actctcagag	60
gatccagaac	tgcagccggt	cctcgctggg	ctgttctctg	ccatgtgcct	ggtcagggtg	120
ctggggaacc	tgctcatcat	cctggccatc	agccctgact	cccacctcca	cacccccatg	180
tacttcttcc	tctccaacct	gtccttgcc	gacatcggtt	tcacctccac	catgggtcccc	240
aagatgattg	tggaaatcaa	tctcacagca	gagtcattct	ctatgcaggc	tgcctgactc	300
agatgtctct	ctttgcatc	tttgaggga	tggaaagagag	acatgtctct	gagtgatgatg	360

gcctatgacc	ggtttgtagc	catctgtcac	cctctatata	attcagccat	catgaacccg	420
tgtttctgtg	gcttcctagt	tttgcgtgtc	tttttttctt	tctttttctc	agctgcacaa	480
cttgattgcc	ttaaaaatga	cctgcttcaa	gaatgtggga	attcctaatt	tcctctgtga	540
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tttccccgct	gccatatttg	gttttcttcc	catctcgagg	acccttttct	cttaccatgt	660
aattgtttcc	tccattctga	gggtttcatc	atctgtggga	ggtgtaaagc	cttccccatc	720
tgtgagttgt	ttgctgatat	tatggaacag	gctttggagg	gtacctcagt	tcagatgtgt	780
catcttccct	gagaaaggct	gcagtggcct	cagtgatgta	catggtgggc	acacccatgc	840
tgaaccctt	catctacagc	ctgagaaaca	gggatattaa	aagtgtcgtg	cagcgccgcg	900
atggcagcac	ggtctaattc	caatatcttc	ttatctgttc	cattcctttt	gtagtgtggg	960
ttaaaaaagg	cagcaaggtc					980

&lt;210&gt; 194

&lt;211&gt; 939

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g42 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 194

atgggaaact	ggagcactgt	gactgaaatc	accctaattg	ccttcccagc	tctcctggag	60
attcgaatat	ctctcttctg	ggttcttgtg	gtaacttaca	cattaacagc	aacaggaaac	120
atcaccatca	tctccctgat	atggattgat	catcgccctg	aaactccaat	gtacttcttc	180
ctcagtaatt	tgtcctttct	ggatatctta	tacaccactg	tcattacccc	aaagtgtgtg	240
gcctgcctcc	taggagaaga	gaaaaccata	tcttttgcgt	gttgcatgat	ccaaacatat	300
ttctacttct	ttctggggac	ggtggagttt	atcctcttgg	cggatgatgc	ctttgaccgc	360
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gcccttgtca	tcctgagctc	cctggcattc	actactgggt	cctacgtgta	cataatttct	660
accatcctgc	gtatcccctc	cacccagggc	cgtcagaaag	ctttttctac	ctgtgcttct	720
cacatcactg	ttgtctccat	tgcccacggg	agcaacatct	ttgtgtatgt	gagacccaat	780
cagaactcct	cactggatta	tgacaagggt	gccgctgtcc	tcatacacagt	ggtgacccct	840
ctcctgaacc	cttttatcta	cagcttgagg	aatgagaagg	tacaggaagt	gttgagagag	900
acagtgaaca	gaatcatgac	cttgatacaa	aggaaaact			939

&lt;210&gt; 195

&lt;211&gt; 737

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g43 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 195

atgggaaata	tcaacataag	tcttgaaaat	tactttattc	tactgggtct	ttctaattga	60
cctcctctgg	aaatagttat	ttttgtagtt	ctcttgatat	tctgcttcat	gacactgata	120
ggcaagctgt	tcagcatcat	tctgtcatac	ctggactccc	atccccacac	tctcggtact	180
tattctcttt	tctggatttc	tgctacacca	tcagttccat	cttttaatta	cagtacaatc	240
tctggggccc	acagaagaac	atctcttatg	ccagtgggtat	gattcaaatt	tattttgttc	300
tcacactggg	aaccatggat	tgcgctctac	tgggtggtgat	gtccaggact	gtgatgcagc	360
tggacacaga	cacttgccct	atactgttgt	tatggctgtg	gctttttggg	taagtagctt	420
taccaactca	gcatttgatt	ccttttttac	cttctgggta	accctgtgtg	gacatcacta	480
ttatgcttac	atctttatat	ttacatcatt	gttagtataa	agatgggttca	ttaacagaaa	540
gaaacagtct	gtgttctcac	tgaatcatgc	agctttatta	acattatctt	ttccattata	600
aatgactgc	ttccaggaga	ttgaaaagaa	catgttaaga	aaagcacagc	attggagaat	660
ctgaaagcat	gtgatcttgt	tcaattaaac	caagtatcaa	aaacatgcat	ttttatgaga	720
ctatttttagg	aaattca					737

<210> 196  
 <211> 949  
 <212> DNA  
 <213> Unknown (H38g44 nucleotide)

<220>  
 <223> Synthetic construct

<400> 196  
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 cagcttcaaa tttccctttt ggcagtcctc tggtttactt atatgcttac tctaacagga 120  
 aacgttgcca tcatctccct aacatgtgcg aatcatcgcc tccaaacccc aatgtacttc 180  
 ttcctcagta attggtcaat ttgggacatt tttttcacca cctcagttat cccaaagcta 240  
 ttagcctgtc tctgcagga caagaagacc atatctttgg ctgggtgcat caccctaaact 300  
 tatttctctg gttttctggg ggacagtggg gtttatcctc tgggcagtga tgtcctttga 360  
 ctgctacgtg gccatctgtg accccttgca ctacaccatt atcatgaaca gcagggcctg 420  
 cctcctacta gttctgggct gctgggttgg agccttcctg tctgtgttgt gcccaaccat 480  
 tgtggtgtcc agattgcctt tctgttacaa ggaaattagt cacttcttct gtgacatcac 540  
 cctctgcta catgtgtcct gtatagacac tcatctcatc gagatgataa acttccctctt 600  
 atcttccctc atcctcctga cctcactggg gctcaccact gtgtcctaca tctacatcat 660  
 ttctaccatc ctgcacatcc cctcagccca aggacgtcgg aaggcctttt ccacgtgcgc 720  
 ttccacatc accgtcattt ccatcgctta tataagcaac atcttcaggt atgtgaggcc 780  
 cagccagagt cattcaatgg gttttgacaa ggtgacagct gtccccacaa tggtgacccc 840  
 tcttctgaat cccttcactt atagtctaag aaatgaaaag gtaaaggcag tcttgaaaga 900  
 agcagtcagc aaaattatgt cctcatggca caggagaact taaaacttt 949

<210> 197  
 <211> 930  
 <212> DNA  
 <213> Unknown (H38g45 nucleotide)

<220>  
 <223> Synthetic construct

<400> 197  
 atggaaccac agaaccaccac acaggtatca atgtttgtcc tcttaggggtt ttcacagacc 60  
 caagagctcc agaaattcct gttccttctg ttctgttag tctatgttac caccattgtg 120  
 ggaaacctcc ttatcatggt cacagtgact tttagctgcc ggctccacac acccatgtat 180  
 tttctgctcc gaaatctagc tctcatagac ctctgctatt ccacagtcac ctctccaaag 240  
 atgctgggtg acttccctcca tgagaccaag acgatctcct accagggtctg catggcccag 300  
 atcttcttct tccacctttt gggaggtggg actgtctttt ttctctcagt catggcctat 360  
 gaccgtaca tagccatctc ccagccctc cggtatgtca ccatcatgaa cactcaattg 420  
 tgtgtgggccc tggtagtagc cgcctgggtg gggggctttg tccactccat tgtccaactg 480  
 gctctgatac ttccactgcc cttctgtgac cccaatatca tagataactt ctactgtgat 540  
 gttccccaag tactgagact tgcctgcact gatacctccc tcttgaggtt cctcatgatc 600  
 ttcaacagtg ggctgctagt tatcatctgg ttctcctccc ttctgatctc ttatactgtc 660  
 atcctggtga tgcctgaggt ccactcggga aaggcaaggga ggaaggcagc ttccacctgc 720  
 accaccacaca tcatcgtggt gtccatgatc ttcatctcct gtatctatat ctatacctgg 780  
 cccttcaccc cattcctcat ggacaaggct gtgtccatca gctacacagt catgaccccc 840  
 atgctcaacc ccatgatcta caccctgaga aaccaggaca tgaaagcagc catgaggaga 900  
 ttaggcaagt gcctagtaat ttgcaggagg 930

<210> 198  
 <211> 932  
 <212> DNA  
 <213> Unknown (H38g46 nucleotide)

<220>  
 <223> Synthetic construct

<400> 198

gaccaagaaa	atcagacttc	tgaagtcacc	ttcatcctct	tgggcttctc	agaatatcca	60
gaccttcaga	cgccctgtt	cctgggtgtc	ctgaccatct	acacagtcac	tgtgctgggg	120
aatctgggca	tgatcatagt	catcaggatc	agccccaac	tccacacccc	catgtgcttt	180
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tctgccacat	tcaatgaaat	aagcagcctg	cttcctatgc	tttcattttt	atcactgtca	660
tgaagacgcc	ttccactggg	gggcgcaaga	aagcgttctc	cacgtctgcc	tcccacttga	720
cggccattac	cattttccat	gggactatcc	ttttcctcta	ctgtgttctt	aactccaaaa	780
gttcgtggct	catggccaag	gtggcctctg	tcttttacac	agtggtcatt	cccatgctga	840
accccttgat	ctatagcctc	aggaacaaa	atgtaaaaga	gacagttagg	aggttactca	900
ttaccaaatt	attatgtctc	atattataaa	at			932

&lt;210&gt; 199

&lt;211&gt; 1000

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g47 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 199

tatgcagacc	cacagaatct	aacagatgtc	tctatatctc	tcctcctaga	agtctcaggg	60
gatccagaac	tgcagccagt	ccttgctggg	ctgttcctgt	ccatgtgcct	ggtcacgggtg	120
ctggggaacc	tgctcatcat	cctggccatc	agccctgact	cccacctcca	cacccccatg	180
tacttcttcc	tctccaacct	gtccttgcc	gacatcggtt	tcacctccac	cacgggtcccc	240
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aaggtgtcct	gcggcagccg	cacggcagca	cagtctaata	tcaatatctt	atctgttcca	960
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&lt;210&gt; 200

&lt;211&gt; 921

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g48 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 200

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ggaaacatcc	ttatcatcat	cacagtgcac	tctgattccc	agctccacac	acccatgtac	180
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accacccaca	tcacgtgggt	ttccatgata	ttcgttccaa	gcatttacct	ctatgcccgg	780
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ttaggagagac	accggctgggt	t				921

&lt;210&gt; 201

&lt;211&gt; 947

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g49 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 201

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gattccagaac	tgacgcccgt	cctcgctttg	ctctccctgt	ccctgtccat	gtatctgggc	120
atgggtgctga	ggaacctgct	cagcatcctg	gctgtcagct	ctgtctctcc	cctccacacc	180
cccacctgtg	ctgggctgac	atcggtttca	ccttggccac	ggttcccaag	atgattgtgg	240
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tcattcctttt	tgcatgtata	gaaggcatgc	tcctgactgt	gatggcctat	gactgctttg	360
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tcgttttgggt	gtcctttttc	cttagcctgt	tggattccca	gctgcacagt	tgaattgtgt	480
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acctagcagt	tgtttgctga	ttttatgtaa	caggcattgg	catgtacctg	acttcagctg	780
tgtcaccacc	ccccagcaat	gggtgtagtg	cgtcagtgat	gtatgctgcg	gtcactccca	840
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tgctcagcag	aacagtcgaa	tttcatgata	tgttccatcc	ttttct		947

&lt;210&gt; 202

&lt;211&gt; 369

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g50 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 202

atgtctgggt	ccccactca	actgacagca	ggccccagga	cagccagtgg	ctgtgtcatc	60
atgatctgct	ttgccctcac	tgctctctct	tacatccgca	tcttggccac	agtggttcag	120
atccgttcag	cagccagccg	ccggaaggcc	ttctccacct	gttcttccca	cctgggcatg	180
gtgtctcctgt	tctatggcac	cggcagctcc	acctacatgc	gacccaccac	ccgtactctc	240
ccgttggaag	ggcgcttggc	tgctgtcttc	tactccatcc	tcataccacc	cctgaatccg	300
ctcatctaca	gcctgaggaa	ccaggacatg	aagagagccc	tgtggaagct	ctatctccag	360
gtgccatac						369

&lt;210&gt; 203

&lt;211&gt; 1068

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g51 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 203

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atgatcaatg atagccactt cagtgggttt atactccttg gattcacagg gcagcctcag      60
cttcagatga tgatctctgg ggttgtcttt ttcttctaca ctattgcctt catgggaaat      120
atggccatca tcctattgtc ttctctagat gaccatctcc aagtcccat gtacttcttc      180
cttagaaatt tggccatctt ggatctctgt tataccacaa atatagtccc acaaagtgtg      240
gtcagtatct ggggcaaaga caaaagaatt acctttggtg ggtgtgcctt tcaacttttc      300
attgatgtgg cactgtactc agttgaatgc atccttctgt ccatgatgtc atatgatcga      360
ctcaatgcta tctgcaagcc tctgcatcat atgaccataa tgaacctcca actctgccag      420
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gccacgagtc ttctctgatg taggaaccac cacctagacc acttttttgt gtgtgtgaaa      540
tgtctgcaat gatcaagatt caagattgca tgtgtggaca ccacagccat ggaggttaacc      600
acatttgcca tgtgctgat tatagtctt ttctctcttc ttcttattct tgtgtcatat      660
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gggacctgtt cctcccatct cgttgtggta tccatcttct gtgggacagt tacatacatg      780
tatatacagc caggaaacag tccaaatcag aatgagggca aacttctcag tatattttac      840
tccattgtta ctcccagctt gaaccatta atttatacgg taaggataaa ggagttcaag      900
ggggccatga agaggctaac tggaaaagaa aaagattgca tggaaaaaag aggacattga      960
ttcttctctc cagcaatttc taatatggca attgatcttc ccaatctaaa atgtagacaa     1020
tttattttgt aaataaattg tctacacctg agataaagat aatatcca      1068

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&lt;210&gt; 204

&lt;211&gt; 949

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g52 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 204

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atgatcaatg atagttactt tggttggctt atgctccttg ggttccctgg gaagcctcag      60
ctggagatga tcatctctgg ggttgtcttt ttcttctatg caatttcttt gatgggaaat      120
atggtcctta tcctgtctgc attactggat aaacatctcc aaaccccat atatttcttt      180
cttagaaatc tggctatctt ggatctttgt tacaccacaa atatagtccc acagatgttg      240
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actaatgtga cgctatgcac ggttgaatgt atgcttcttg ctgtgatgtc atatgacca      360
ttcaatgctg tctgcaagcc tctggactat atgaccataa tgaaccccca actctgtcaa      420
ggcctgggtg ccatgacctg gtttaattgg gtcactaatt gcatgatact ttcccctgt      480
cctgtgagtc ttctctgatg cggagaccac cacctggatc actatttttg tgaaatatct      540
gcaatggta aaattgcatg tggggctacc acagtcatgg agggaaaacc ttatttgcatt      600
tgtgtgttg ttgttcttt catttctct gcatcacttc ttctcattct tgtgtcatat      660
ggcttcattg ctgtggctgt actcaagatc aagtctgcag caggaagaca aaaagcattt      720
gggacctgtt tctcccatct cattgtggta tccatcttct atgggactgt tagatatatg      780
tatatagagc caggaaacag tccatctcag gatgagggca aacttctcca tatattttac      840
tccattgtta ctcccactt gaaccatcc cactaaggaa taaggagttc aagtgggcca      900
tgaaaaggct tattggaaaa gaaaaaggtt ctggagacac aataggtca      949

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&lt;210&gt; 205

&lt;211&gt; 936

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g53 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 205

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atggttaacc aaagctccac accgggcttc ctcttctctg gtttctctga acaccagg      60
ctggaaagga ctctcttctg ggttgtcttc acttctacc tcttaaccct agtgggcaac      120
acactcatca tcctgtctgc tgcgtggac cccaagctcc actctccaat gtactttttc      180
ctctccaacc tctcttctt ggacctctgt ttaccacaga gttgtgttcc ccaaagtctg      240
gtcaacctct ggggcccaca gaagaccatc agcttctctg actgctctgt ccagatcttc      300
atcttctctg ccctggggac aactgagtgc atctcttga cagtgatggc ttttgatcgc      360
tacgtggctg tctgcagacc cctccactat gccaccatca tccaccccg cctgtgctgg      420

```

cagctggcat	ctgtggcctg	ggtcattggg	ctagtggagt	cagtggcca	gacaccatcc	480
accctgcacc	tgcccttctg	ccccgatcgg	cagggtggatg	atcttgtctg	tgagggtccca	540
gctctaattc	gactctcctg	tgaagacacc	tcctacaatg	agatccaggt	ggctgttgcc	600
agtgtcttca	tcttggttgt	gcctctcagc	ctcatccttg	tctcttacgg	agccattacc	660
tgggcagtcg	tgaggattaa	ctctgcaaaa	gggcgaggga	aagcttttgg	gacctgctcc	720
tcccatctca	ctgtgggtcac	cctcttctac	agctcagtcg	ttgtgtctca	cctccagccc	780
aaaaatccct	atgcccaaga	gaggggcaag	ttctttgggtc	tcttctatgc	agtgggcact	840
ccttcactta	accctctcat	atacaccctg	aggaacaagg	aggtaccag	ggcattcagg	900
agattgctgg	ggaaggaaat	ggggctcaca	caaagc			936

&lt;210&gt; 206

&lt;211&gt; 1030

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g54 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 206

atggttaacc	aaagctccgc	accaggcttt	ctccttctg	gcttctctga	acaccagca	60
ctggaaagga	ctctctttgt	agttgtcttc	acttcctacc	tcctaacc	gggtggactca	120
tcatcctgct	gtctgtgctg	gacccaggc	tcactctcc	aatgtacttt	ttcctctcca	180
acctctcctt	cttggtacctc	tgtttcacca	taagttgtgt	ccccgggatg	ctgggtcaacc	240
tctgggagcc	aaagaagacc	atcatcttac	tggtgtgctc	tgccagttc	ttcatcttcc	300
tgctccctgg	gaccactgag	tgcatcctcc	tgacgggtgat	ggcctttgac	cgctacatgg	360
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ttcgactctc	ctgtgaagac	acctcctaca	atgagatcca	gatggctgtt	gccagtgctc	600
tcatcttggc	tgtgcctcag	cctcatcctt	gtctcttatg	gagccattgc	ctgggcagtg	660
ctaaggacta	actgcaaaaag	ggcagaggaa	agcttttggg	acctgtctct	cccattctcac	720
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gaagaaatta	tttatccttt	tgtgaacaag	tttgagctcc	caagtatact	acctttcata	1020
caccatcac						1030

&lt;210&gt; 207

&lt;211&gt; 873

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g55 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 207

atgttcgcgc	cccttgctct	cctgtgctac	ctcctgacct	tgacgggcaa	ctcggcgctg	60
gtgctgctgg	cggtgcgcga	cccgcgcctg	cacacgcccc	tgtactactt	cctctgccac	120
ctggccttgg	tagacgcggg	cttcactact	agcgtggtgc	cgccgctgct	ggccaacctg	180
cgcggaaccg	cgctctgggt	gccgcgcagc	cactgcacgg	cccagctgtg	cgcatcgctg	240
gctctgggtt	cgcccgaaatg	cgctctcctg	gcgggtgatg	ctctggaccg	cgcgcccaag	300
aaagtgaagg	gggcagcgag	gaggctgctg	cgaggtctgg	ggagaggcca	ggctgggcag	360
agcgctcct	ggctaagcgg	cctcaccaac	tcggttgccg	aaaccgcgct	cctggctgag	420
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cgctacaacc	aggcacgggg	caagttcgta	tcgctcttct	acaccgtgg	cacacctgct	780
ctcaaccgc	tcactctac	cctcaggaa	aagaaagtga	agggggcagc	gaggaggctg	840

ctgcggagtc tggggagagg ccaggctggg cag

873

&lt;210&gt; 208

&lt;211&gt; 921

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g56 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 208

gagctgatta	cgaattcgag	ctcgggtaccc	tcttgtgagc	ggacaattca	gatcttcctc	60
ttctcactca	taactacaat	atatgcactg	actataacag	gtaatggagc	cattgctttt	120
gccctgtggt	gtgaccggcg	acttcacact	cccatgtaca	tgttcctggg	agattttctc	180
tttttagaga	tatggtatgt	cttttctaca	gttcccaaga	tgttgggtcaa	cttcctttca	240
gagaaaacaa	acatctcctt	tgctggattg	ctttctccag	atctattttct	tcttctcttt	300
gatacatcag	aatgcttgct	tttgactgtg	atggcctttg	atcagaacct	tgctatctgc	360
cggcccttgc	actatcctaa	tatcatgact	gggcattctt	gtgccaaact	ggccatactg	420
tgctgggttt	gtggctttct	gtggttcctg	atccccattt	tctcatctct	cagatgccct	480
tctgtggccc	aaacattatt	gaccatgttg	tgtgtgacct	agggccacta	tttgcatagg	540
attgtgtttc	tgccccaaga	atccaactgt	tttgctacac	tctaagctca	ttagttattt	600
ttggtaactt	cctcttttatt	attggatcct	atactattgt	cctgaaagtt	gtggtgggta	660
cgccttcaag	cactggggaga	cataaggcct	tctctacctg	tgggtctcat	ttggctgtgg	720
tatcactgtg	ctatggctct	cttatgggtca	tgtatgtgag	cccaggactc	ggacattcta	780
cggagatgca	gaaaattgta	actttgttct	atgctatggt	gacctcactc	ttcaatcccc	840
ttatctatag	gcctccagaa	taaggagata	aaggcagcct	tgaggaaagt	tctggtgagt	900
tccaacataa	tctaaggcat	a				921

&lt;210&gt; 209

&lt;211&gt; 660

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g57 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 209

gcatgtaagc	atgcatgata	ctgactgtga	tggcctatga	ctgcttagta	gccatctgtc	60
gccctctgca	ttaccagtc	atcgatgaatc	ctcacctctg	tgtcttcttc	gttttggtgt	120
ccttctcatt	agcatgtagg	ttcccagctg	cacagttgaa	ttgtgttaca	attcaccatc	180
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tgttctgaca	gcgtcatcaa	tagcatattc	acgtatttcc	atagtactat	gtttgggttt	300
cttcccattt	cagggatcct	tttgtcttac	tttaaaatcg	tcaccttcat	tctctggatt	360
tcactctcag	atgggaagta	taaagccttc	tccacctgtg	actctcacct	agcagttggt	420
tgctgatttt	atgggaacagg	cattggcgtg	tacttgactt	cagctctgtc	accaccccc	480
aggaatggtg	tgatggcgtc	agtgatgtac	gctgtgggtca	cccccatgct	gaaccttttc	540
atctacagcc	tgagaaacag	ggacatacaa	agtgcctgtg	ggaggctgct	cagcagaaca	600
gtcgaatctc	atgatctgtt	ccatcctttt	tcttgtgtgg	gtaagggtcaa	ccacattaaa	660

&lt;210&gt; 210

&lt;211&gt; 942

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g58 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 210

atggccaaga	ataatctcac	cagagtaacc	gaattcatte	tcattgggctt	tatggaccac	60
cccaaattgg	agattcccc	ctttctgggtg	tttctgagtt	tctacctagt	caccttctt	120
gggaatgtgg	ggatgattat	gttaatccaa	gtagatgtca	aactctacac	cccaatgtac	180

ttcttctctga	gccacctctc	cctgctggat	gcctgttaca	cctcagtcac	cacccctcag	240
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ttctttttat	tcaccatctg	tgaggcaca	gagtgtcttc	tgctggcagt	gatggcctat	360
gategctatg	ctgccattcg	caaccactg	ctctataccg	tggccatgaa	tcccaggctc	420
tgctggagcc	tgggtgtagg	agcctatgtc	tgtgggggtg	caggagccat	cctgcgtacc	480
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ctcccacccc	tgetgaagct	tgctgcagt	gacacagcaa	acatcgagat	tgctcatc	600
ttcttttgga	attttgtgat	tttgccaat	gcctccgtca	tcctgatttc	ctatctgtct	660
atcatcaaga	ccattttgaa	agtgaagtct	tcagggtggca	gggccaagac	ttctctccaca	720
tgtgcctctc	acatcactgc	tgtggccctt	ttcttttgag	cccttatctt	catgtatctg	780
caaagtggct	caggcaaate	tctggaggaa	gacaaagtcg	tgtctgtctt	ctatacagtg	840
gtcatcccca	tgctgaaccc	tctgatctac	agcttaagaa	acaaagatgt	aaaagacgcc	900
ttcagaaagg	tcgctaggag	actccagggtg	tccttgagca	tg		942

&lt;210&gt; 211

&lt;211&gt; 941

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g59 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 211

atgggtggtc	taaaaagaga	caatgcctct	gagatgactg	aactcatcct	tgttggattt	60
gcccacacac	ctgaaatcca	gactgccttc	ttcttggaac	tactgttttt	ctactagtca	120
cagcgtttga	gaacatcctt	atcggtgctg	tagtgagatg	agattctcga	cttcatactc	180
ctatgggatt	tttttttcct	cagtacctta	tcctcccttg	aaatgtgtta	ctccatcagc	240
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caatcggttc	tgtatacagt	tggccttggg	aatctggacc	catgccttct	tagtagcagt	480
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tgttaaatac	cccaattttac	attcagagaa	ataaggatat	aaaagggtgca	cttagaaaagt	900
tagccaaagg	aaatgaaaaa	tcctaacagt	tctctttaa	c		941

&lt;210&gt; 212

&lt;211&gt; 1049

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g61 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 212

atggatattc	tggttattga	taatggcagt	gaagtgcacg	agttcatcct	ggtagggtttg	60
tacaaccatc	caaaatttca	gattgccttt	tatcgcacca	tggtagtggg	ctacctgac	120
acatttgttg	gtagcagtct	cattattgtt	gtgggttaaag	ttgatgggtg	gcttcacact	180
cctatgtgtt	ttttcctaag	caacctgtcc	ttccttgata	tctgtacttc	cagcaattca	240
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tttgaaagta	gagaagcaac	atcaaaatga	tagcatctct	gtattttatg	gtgttgtagc	960
ccctatgttg	aacccccctc	tttacacctt	gagagacaag	gatgcgaaaa	tgctctaaga	1020
aaaataatta	ggaagaaaga	gtcctaaaa				1049

&lt;210&gt; 213

&lt;211&gt; 954

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g62 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 213

atggacaaga	taaaccagac	atgtgtgaga	gaattcattc	ttctgggact	ctctgggttac	60
cccaaacttg	agatcatttt	ctttgctctg	attctagtta	tgtacgtagt	gattctaatt	120
ggcaatgggtg	ttctgatcat	agcaagcatc	ttggattctc	gtcttcacat	gcccattgtac	180
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atgttctttg	ggtttgcaat	ggggtcaaca	gaatgtttcc	tccttggcat	gatggcattt	360
gategttatg	tggtcatctg	taacctctg	agatacccca	tcacatgaa	caagggtggtg	420
tatgtactgc	tgacttctgt	atcatggctt	tctgggtgaa	tcaattcaac	tgtgcaaaaca	480
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aaagatgtaa	aagctgctat	aaaatatttg	ctgagcagga	aagctattaa	ccag	954

&lt;210&gt; 214

&lt;211&gt; 957

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g63 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 214

atgttccccg	caaattggac	atctgtaaaa	gtatttttct	tcctgggatt	ttttcactac	60
cccaaagttc	aggtcatcat	atgtgcgggtg	tgcttgctga	tgtacctgat	caccttgctg	120
ggcaacattt	ttctgatctc	catcaccatt	ctagattccc	acctgcacac	ccctatgtac	180
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atgtacctct	cccttgccat	gggtctccat	gagtggtgtg	tcctgcccac	gatggcatat	360
gaccgggtatg	tggtcatctg	caacccccctg	agataccctg	tcacatgaa	taggagaacc	420
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gtgatcagtg	tacttcttct	ccccatgcca	atgctactca	tttgatatctc	ttatgcattt	660
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&lt;210&gt; 215

&lt;211&gt; 930

<212> DNA  
 <213> Unknown (H38g64 nucleotide)

<220>  
 <223> Synthetic construct

<400> 215

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atgctggcag tgctgtgga gcatggggca gctttatctt acacacgctg tgctgtcag	300
ttctttctgt tcaccttctt tggttccatc gactgtacc tcttggccct catggcctat	360
gaccgctact tggctgtgtg ccagccctg ctttatgtca ccatcctgac acagcaggcc	420
cgcttgagtc ttgtggctgg ggcttacgtt gctggtctca tcagtgcctt ggtgcggaca	480
gtctcagcct tcactctctc cttctgtgga accagtgaga ttgactttat tttctgtgac	540
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atgtttgcca tttttgcat ccctgcttcc atggtggtga tcttgggtgtc ctacctgttt	660
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acctccacc tcactgctgt gtcactcttc tttggtagcc tcactctcat gtacttgaga	780
ggtaactcag atcagtcttc ggagaagaat cgggtagtgt ctgtgcttta cacagaggtc	840
atccccatgt tgaatccct catctacagc ctgaggaaca aggaagtga ggaggccctg	900
agaaaaattc tcaatagagc caagttgtcc	930

<210> 216  
 <211> 964  
 <212> DNA  
 <213> Unknown (H38g65 nucleotide)

<220>  
 <223> Synthetic construct

<400> 216

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acagccaact tggctcatgat tctgtctatc cacatggact cccgcctcca cacacccatg	180
tacttcttgc tcagccagct ctccatcatg gataccatct acatctgtat cactgtcccc	240
aagatgctcc aggacctct gtccaaggac aagaccattt ctttctctgg ctgtgcagtt	300
cagatcttcc tctacctgac cctgattgga ggggaattct tctgtctggg tctcatggcc	360
tatgaccgct atgtggctgt gtgcaaccct ctacggtagc ctctcctcat gaaccgcagg	420
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gagatccag ccgtgctgaa gttgtcttgc acagacacgt cactctatga gacctgatg	600
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gcacatctc ctgactgtcc acaggatgaa ctctgtctgag ggccggcgca aagcctttgc	720
tacgtgttcc tcccacatta tggcggtgag cgttttctac ggggcagcct tctacaccaa	780
cgtgctgccc cactcctacc aactccaga gaaagataaa gtggtgtctg ctttctacac	840
catcctcacc cccatgtctc accactcat ctacagcttg aggaataaag atgtggctgc	900
agctctgagg aaagtactag ggagatgtgg ttctcccag agcatcaggg tggcgactgt	960
gac	964

<210> 217  
 <211> 933  
 <212> DNA  
 <213> Unknown (H38g66 nucleotide)

<220>  
 <223> Synthetic construct

<400> 217

atggctcaca caaatgaatc gatgggtgtct gagtttgtac ttttgggact ctctaattcc	60
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ttcttgctca	gtaatctttc	tttcattgat	atctgtcagt	ctaactttgc	cacccccaaag	240
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atattcgttc	ttcacagttt	tgttgggagt	gagatgatgt	tgcttgtagc	tatggcatat	360
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attttgatcg	gtgtccgatg	caggtcctcc	agtgggtcat	ctaaggctct	ttctaata	720
actgccaca	tcacagtgg	cattcttttc	ttcgggcctt	gcatttattt	ctatatatgg	780
ccttttagca	gacttctgt	ggacaaattt	ctttctgtgt	tctacactgt	ttgtactccc	840
ttgttgaacc	ccatcatcta	ctctctgagg	aatgaagatg	ttaaagcagc	catgtggaag	900
ctgagaaacc	gtcatgtgaa	ctcctggaaa	aac			933

&lt;210&gt; 218

&lt;211&gt; 936

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g67 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 218

atggatcaga	aaaatggaag	ttctttcact	ggatttatcc	tactgggttt	ctctgacagg	60
cctcagctgg	agctagtcct	ctttgtgggt	cttttgatct	tctatatctt	cacttttgctg	120
gggaacaaaa	ccatcattgt	attatctcac	ttggaccac	atcttcacac	tcctatgtat	180
ttttttctt	ccaacctaa	ctttttggat	ctgtgttaca	caaccggcat	tgttccacag	240
ctcctgggta	atctcagggg	agcagacaaa	tcaatctcct	atgggtgggtg	tgtagttcag	300
ctgtacatct	ctctaggctt	gggatctaca	gaatgcgttc	tcttaggagt	gatggatttt	360
gaccgctatg	cagctggttg	caggcccttc	cactacacag	tagtcatgca	cccttgctctg	420
tatgtgctga	tggcttctac	ttcatgggtc	attgggtttg	ccaactccct	attgcagacg	480
gtgctcatct	tgcttttaac	actttgtgga	agaaataaat	tagaacactt	tctttgtgag	540
gttccctccat	tgtctaaagt	tgcctgtgtt	gacactacta	tgaatgaate	tgaactcttc	600
tttgtcagtg	tcattattct	tcttgtacct	gttgcattaa	tcatattctc	ctatagtcag	660
attgtcaggg	cagtcagtag	gataaagtta	gcaacagggc	agagaaaagt	gtttgggaca	720
tgtggctccc	acctcacagt	ggtttccttg	ttctacggca	cagctatcta	tgtttacctc	780
cagcccgcca	acaactactc	tcaggatcag	ggcaagttca	tctctctctt	ctacaccatc	840
attacacca	tgatcaacct	cctcatatat	acactgagga	acaaggatgt	gaaaggagca	900
cttaagaagg	tgtcttgga	gaactacgac	tccaga			936

&lt;210&gt; 219

&lt;211&gt; 939

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g68 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 219

atgtgctcag	ggaatcagac	ttctcagaat	caaacagcaa	gcactgattt	caccctcagc	60
ggactctttg	ctgagagcaa	gcatgctgcc	ctcctctaca	ccgtgacctt	ccttcttttc	120
ttgatggccc	tactgggaa	tgcctctctc	atcctctctc	tccactcaga	gccccgctc	180
cacaccccca	tgtacttctt	catcagccag	ctcgcgtctc	tggatctcat	gtacctatgc	240
gtgactgtgc	ccaagatgct	tgtgggcccag	gtcactggag	atgataccat	ttccccgtca	300
ggctgtggga	tccagatggt	cttccacctg	accctggctg	gagctgaggt	tttccctcctg	360
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ggtttgttgc	tcacccccat	taccatgagc	ttcccccttt	gccagtctag	gaaaatcctg	540
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agctcatata	ccctcaccct	gcacatccatc	cacaggatga	attctgccgc	cggccgcagg	720
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ttctacacct	acatgctccc	gagttccctac	cacacagctg	agcaggacat	gatgggtgtct	840
gcctttttaca	ccatcttccac	tcctgtgctg	aacccccctca	tttacagtct	cgcgaacaaa	900
gatgtcacca	gggctatgag	gagcatgatg	cagtcaaga			939

&lt;210&gt; 220

&lt;211&gt; 942

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g69 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 220

atggatgtgg	gcaataagtc	taccatgtct	gaatttggtt	tgctggggct	ctctaattcc	60
tgggaactac	agatgttttt	ctttatgggtg	ttttcattgc	tttatgtggc	aacaatgggtg	120
ggtaacagcc	tcatagtcat	cacagttata	gtggaccctc	acctacactc	tcctatgtat	180
ttcctgctta	ccaatctttc	aatcattgat	atgtctcttg	cttctttcgc	caccccaaaag	240
atgattacag	attacctaac	aggtcacaaa	accatctctt	ttgatggctg	ccttaccag	300
atattctttc	tcacaccttt	cactggaact	gagatcatct	tactcatggc	catgtccctt	360
gataggata	ttgcaatatg	caagcccctg	cactatgctt	ctgtcattag	tccccagggtg	420
tgtgttgctc	tcgtgggtgg	ttcctggatt	atgggagtta	tgcattcaat	gagtcagggtc	480
atatttgccc	tcacgttacc	attctgtggg	ccctatgagg	tagacagctt	tttctgtgac	540
cttcctgtgg	tggtccagtt	ggcttgtgtg	gatacttatg	ttctgggcct	ctttatgatc	600
tcaacaagtg	gcataattgc	gttgtcctgt	tttattgttt	tatttaattc	atatgttatt	660
gtcctgggta	ctgtgaagca	tcattcttcc	agaggatcat	ctaaggccct	ttctacttgt	720
acagctcatt	tcattgttgt	cttcttggtc	tttgggccat	gcactttcat	ctacatgtgg	780
ccactaagca	gctttctcac	agacaagatt	ctgtctgtgt	tttataccat	ctttactccc	840
actctgaacc	caataatcta	tactttgagg	aatcaagaag	taaagatagc	catgaggaaa	900
ctgaaaaata	ggtttctaaa	ttttaataag	gcaatgcctt	ca		942

&lt;210&gt; 221

&lt;211&gt; 930

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g70 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 221

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aggattcaga	tgctcctctt	tgggctcttc	tcctgtttct	acgtcttcac	cctgctgggg	120
aacgggacca	tactggggct	catctcactg	gactccagac	tgcacgcccc	catgtacttc	180
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atcacccctcg	cggtgacttc	ctggaccact	ggagtccttt	tatccttgat	tcactttgtg	480
ttactttctac	ctttaccctt	ctgtaggccc	cagaaaattt	atcacttttt	ttgtgaaatc	540
ttggctgttc	tcaaacttgc	ctgtgcagat	acccacatca	atgagaacat	ggtcttggcc	600
ggagcaattt	ctgggctggg	gggacccttg	tccacaattg	tagtttcata	tatgtgcate	660
ctctgtgcta	tccttcagat	ccaatcaagg	gaagttcaga	ggaaagcctt	ccgcacctgc	720
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aatcccctgc	tcaatcccct	tatctgtagt	cttaggaact	cagaagtga	gaatactttg	900
aagagagtgc	tgggagtaga	aagggtctta				930

&lt;210&gt; 222

&lt;211&gt; 969

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g71 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 222

cacacggagc	cacggaatct	cacagggtgc	tgagaattcc	tcctcctggg	actctcagag	60
gatccagaac	tgctgccggt	cctcgctttg	ctgtccctgt	ccctgtccat	gtatctgggc	120
atggtgctga	ggaacctgct	cagcatcctg	gctgtcagct	ctgactcccc	tccacacccc	180
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tcccaagatg	attgtggaca	tgcatgcgca	tagcagagtc	atctctcatg	cgggctgcct	300
ggcacagatg	tctttcttgg	tcctttttgc	atgtatagaa	gacatgctcc	tgactgtgat	360
ggcctatgac	agctttgtag	ccatctgtca	ccctctgcac	taccagtcac	tcatgaatcc	420
tcacctctgt	gtctttcttg	ttttgggtgc	ctttttcctt	agcctgttgg	attcccagct	480
gcacggttgg	attgtgttac	aattcaccat	catcaagaat	gtggaaatct	ctaattttct	540
ctgtgacccc	tctcaacttc	tcaaacttgc	ctgttctgac	agcgtcacca	atagcatatt	600
catataat	gatagtacta	tgtttggttt	tcttcccat	tcagggatcc	ttttgtctta	660
gtataaaatt	gtcccttcca	ttctaaggat	gtcatcgta	gatgggaagt	ataaagcctt	720
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aagtgcctgt	cggagggtgc	gcagcagaac	agtggaaatct	catgatctgt	tccatccttt	960
ttcttgtgt						969

&lt;210&gt; 223

&lt;211&gt; 945

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g72 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 223

atggcctgga	gcaatcagtc	tgccgtaacc	gaattcatat	tacggggtct	gtccagttct	60
ttagaactcc	agatttttcta	cttctgtttt	ttctccatag	tctatgcagc	cactgtgctg	120
gggaaccttc	ttattgtggt	caccattgca	tcagagccac	accttcattc	ccctacgtac	180
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ctaagcagcc	atatctttta	atctaggaag	actgatcata	ctcct		945

&lt;210&gt; 224

&lt;211&gt; 963

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g73 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 224

atgaaaaagt	acatggaaag	gactaattga	acaactgagt	ttgagttgat	tctcataagt	60
------------	------------	------------	------------	------------	------------	----

ctatgagtag	tcataagttg	acaaaaactc	ctttttgtca	catgcttagt	gggtgatcta	120
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gggtgacctg	ttctgcgggg	tagtaatgct	catgctcaat	cttatcatct	atagcctggg	900
gaatatggag	gtgcttgggg	ttatgaagaa	attgatcagt	atgagtagac	cctggtgctg	960
gaa						963

&lt;210&gt; 225

&lt;211&gt; 974

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g74 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 225

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gatccagaac	tgcagccggg	cctcgctttg	ctgtccctgt	ccctgtccat	gtccatgtat	120
ctggtcacgg	tgtctaggaa	cctgtctcagc	atcctggctg	tcagctctga	ctcccaactc	180
cacacccccca	tgtactttct	cctctccaac	ctgtgctggg	ctgacatcgg	tttcacctcg	240
cccattgggtc	ccaagatgat	catggacatg	cagtcgcata	gcagagtcac	ctctcatgcy	300
ggctgacctga	cacggatgtc	ttctttgggc	ctttttgcat	gtatagaaga	catgctcctg	360
actgtgatgg	cctatgactg	ctttgtagcc	atctgtcgcc	ctctgcacta	cccagtcac	420
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gccttcgccca	cctgtggctc	tcacctagca	cttgtttgct	gatttgatgg	aacaggcatt	780
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attcaaagtg	ccctgcagag	gctgagtagc	agaacagtgg	aatctcatga	tctgttccat	960
cctttttctt	gtgt					974

&lt;210&gt; 226

&lt;211&gt; 957

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g75 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 226

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gaggtggagc	tgtgtctcct	ggtgtctcctg	ctgcccacgt	tcctgtctgac	tcttctgggg	120
aacctgtctc	tcattctccac	tgtgtctgtcc	tgtctccgcc	tccacacccc	catgtacttc	180
ttctttgtgca	acctctctat	cctggacatc	ctcttcacct	cagtcactctc	tccaaaagtg	240
ttggccaact	taggatctag	ggataaaacc	atctcctttg	ccggatgtat	cacccagtg	300
tattttctact	ttttcttggg	cacagttgag	ttcctcctgc	tgacgggtcat	gtcctatgac	360
cgttatgcca	ccatctgctg	ccccctgcgg	tacaccacca	tcatgagacc	ttctgtctgc	420
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ctcatctccc	agctgccctt	ctgtggctcc	aatatcatta	accacttctt	ctgtgacagt	540
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ctttcttcca	tggtcactct	ctgctgcata	gtccctcggtg	cctattccta	tacgtacatc	660
atcttgacca	tagtgcgcat	tccttctgca	agtggaaagga	agaaggcctt	taataacctgt	720
gcttcccacc	tgaccatagt	catcattcct	agtggcatca	ctgtgtttat	ctatgtgact	780
ccctcccaga	aagaatatct	ggagatcaac	aagatccctt	tggttctgag	cagtgtgggtg	840
actccattcc	tcaaccctt	tatatatact	ctgaggaatg	acacagtgca	gggagtcctc	900
agggatgtgt	gggtcaggg	tcgaggagtt	tttgaaga	ggatgagggc	agtgtctg	957

&lt;210&gt; 227

&lt;211&gt; 939

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g76 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 227

atggaaactg	caaattacac	caaggtgaca	gaatttgctc	tcaactggcct	atcccagact	60
cgggaggtcc	aactagtcct	atttgttata	tttctatcct	tctatttgtt	catcctacca	120
ggaaatatcc	ttatcatttg	caccatcagg	ctagaccctc	atctgacttc	tcctatgtat	180
ttcctgttgg	ctaactctggc	cctccttgat	atttgggtact	cttccattac	agcccctaaa	240
atgctcatag	acttctttgt	ggagaggaag	ataatttctc	ttggtggatg	cattgcacag	300
ctcttcttct	tacactttgt	tggggcttcg	gagatgttct	tgctcatagt	gatggcctat	360
gaccgctatg	ctgctatctg	ccgacccctc	cactatgcta	ccatcatgaa	tcgacgtctc	420
tgctgtatcc	tgggtggctct	ctcctggatg	gggggcttca	ttcattctat	aatacaggtg	480
gctctcattg	ttcgacttcc	tttctgtggg	cccaatgagt	tagacagtta	cttctgtgac	540
atcacacagg	ttgtccggat	tgccctgtgcc	aacaccttcc	cagaggagtt	agtgatgatc	600
tgtagttagt	gtctgatctc	tgtgggtgtg	ttcattgtct	tgtaaatgtc	ctatgccttc	660
cttctggcct	tgctcaagaa	acattcaggc	tcagatgaga	ataccaacag	ggccatgtcc	720
acctgtctatt	cccacattac	cattgtgggtg	ctaagtgttg	ggccatccat	ctacatttat	780
gctcgcccat	ttgactcatt	ttccctagat	aaagtgggtg	ctgtgtttca	tactgtaata	840
ttccctttac	ttaatcccat	tattttacaca	ttgagaaaca	aggaagtaaa	ggcagccatg	900
aggaaggtgg	tcaccaaata	tattttgtgt	gaagagaag			939

&lt;210&gt; 228

&lt;211&gt; 940

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g77 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 228

atggaaaagtc	aaaggaacat	ataaaaaattc	atactcatga	gcctttctct	tatccagaac	60
atacaaatat	ttgtttttgt	gttcttattt	tgtaatgttg	ccatcttggg	gggaaacttt	120
ctgaccccta	tctctatttg	atgtagtcct	ctttttaacc	aaccaatgca	ctatttcttc	180
aggctatatg	aatatctact	atacctcctg	tgtcacaccc	aaaataattg	gtgatctagt	240
agtgggaaga	ataaacatct	cctatgatag	gagtccttcc	catgcacttc	tttggaatca	300
ttgaaatctt	catccttaca	gtcatggcct	ttgatcacta	tggtgccatc	tgcaaacctc	360
cccgtacctt	aattatcatg	aataggacaa	aatacaatac	tctaactctg	gttgcttggc	420
tggtggggct	ttccattctt	tgtttcagtt	ttctatgaaa	atctgggttg	ctttctgtgg	480
ctccaacaaa	gttgatgact	aatattaaga	tatttttctc	ttactgaaag	tcgcttgtag	540
tgatacctgc	atcactgggt	tcctcgtggg	tgccaattct	ggaatgtttg	ccttggtaac	600
cttggtctgt	cgtttggctc	ttatgtcatt	atactattcc	ccttaaaaaa	tcattcagta	660
gaggggaagat	gcaaagccct	ctctacctgt	ggatctcata	tcaccatggg	aatctttttc	720
ttcgaacctt	caatctttgc	ctaccttaga	ccttctcact	tttcttgagg	acaaaaatct	780
tgctctgttt	tacactatta	ttgctccaat	gttcaaccac	ctaacttata	acctgagaaa	840
tacagagatg	aaaaaggcca	tgagaaaagt	ttggtaccac	atatcatttt	cagaagaaaa	900
acagctgatt	tgtcctactt	agtgtactaa	agaactttat			940

<210> 229  
 <211> 912  
 <212> DNA  
 <213> Unknown (H38g78 nucleotide)

<220>  
 <223> Synthetic construct

<400> 229  
 atgagaaatg gcacagtaat cacagaattc atcctgctag gctttcctgt tatccaaggc 60  
 ctacaaacac ctctctttat tgcaatcttt ctcacctaca tattaaccct tgcaggcaat 120  
 gggcttatta ttgccactgt gtgggctgag cccaggctac aaattccaat gtacttcttc 180  
 ctttgtaact tgtctttctt agaaatctgg tacaccacca cagtcacccc caaactgcta 240  
 ggaacctttg tagtggcaag aacagtaatc tgcattgctt gctgcctgct gcaggccttc 300  
 ttccacttct tcgtgggcac caccgagttc ttgatcctca ctatcatgtc ttttgaccgc 360  
 tacctcacca tctgcaatcc ccttcaccac cccaccatca tgaccagcaa actctgcctg 420  
 cagctggccc tgagctcctg ggtgggtgggc ttcaccattg tcttttgta gacgatgctg 480  
 ctcattccagt tgccattctg tggcaataat gttatcagtc atttctactg tgatgttggg 540  
 cccagtttga aagccgctg catagacacc agcatttttg aactcctggg cgtcatagca 600  
 accatccttg tgatcccagg gtcacttctc tttaatatga tttcttatat ctacattctg 660  
 tccgcaatcc tacgaattcc ttcagccact ggccaccaa agactttctc tacctgtgcc 720  
 tcgcacctga cagttgtctc cctgctctac ggggctgttc tgttcatgta cctaagacct 780  
 acagcacact cctcctttta gattaataag gtgggtgctg tgctaaatac tatcctcacc 840  
 ccccttctga atccctttat ttatactatt agaaacaagg aggtgaaggg agccttaaga 900  
 aaggcaatga ct 912

<210> 230  
 <211> 963  
 <212> DNA  
 <213> Unknown (H38g79 nucleotide)

<220>  
 <223> Synthetic construct

<400> 230  
 atgacaattc ttcttaatat cagcctccaa agagccactt tcttcctgac gggcttccaa 60  
 ggtctagaag gtctccatgg ctggatctct attcccttct gcttcactta cctgacagtt 120  
 atcttgggga acctcaccat tctccacgtc atttgtactg atgccactct ccatggacct 180  
 atgtactatt tcttgggcat gctagctgtc acagacttag gcctttgcct tccacactg 240  
 cccactgtgc tgggcatttt ctggtttgat accagagaga ttggcatccc tgcctgtttc 300  
 actcagctct tcttcaccca caccttgtct tcaatggagt catcagttct gttatccatg 360  
 tccattgacc gctacgtggc cgtctgcaac ccactgcatg actccaccgt cctgacacct 420  
 gcatgtattg tcaagatggg gctaagctca gtgcttagaa gtgctctcct catcctcccc 480  
 ttgccattcc tcctgaagcg cttccaatac tgccactccc atgtgctggc tcatgcttat 540  
 tgtcttcacc tggagatcat gaagctggcc tgccttagca tcattgtcaa tcacatctat 600  
 gggctctttg ttgtggcctg caccgtgggt tgggactcac tgctcatctt tctctcatac 660  
 gccctcatcc ttcgcaccgt gctcagcatt gcctcccacc aggagcgact cccagccctc 720  
 aacacctgtg tctctcatat ctgtgctgta ctgctcttct acatcccat gattggcttg 780  
 tctcttgggc atcgctttgg tgaacatctg ccccgcggtg tacacctctt catgtcctat 840  
 gtgtatctgc tggatccacc ccttatgaac cccatcatct acagcatcaa gaccaagcaa 900  
 attcgccagc gcatcattaa gaagtttcag ttataaaagt cacttaggtg tttttggaag 960  
 gat 963

<210> 231  
 <211> 968  
 <212> DNA  
 <213> Unknown (H38g80 nucleotide)

<220>  
 <223> Synthetic construct

&lt;400&gt; 231

atggggaacc	acaccaccgt	caccgagttt	gtcctgctgg	ggctctcaga	gacctgtgag	60
ctgcagatgc	tcatcttcc	ggggctctc	ctgacctacc	tcctcacact	gctggggaat	120
ctggatcatg	tggatcatc	cctcatggac	aggcgctcc	acaccacat	gtactacttc	180
ctccgcaact	ttgctgtccc	ggagatctgg	ttcacctcg	tcattcttcc	caaggtgctg	240
gccaacatcc	tcacaggata	caagaccatt	ccctcccagg	ctgcttctcg	caaagtgtgc	300
tctatTTTTT	cttgggcacc	acagagttct	tcctcctggc	ggtgatgtcc	tttgacaggt	360
acgtggccgt	atgtaaccct	ttgcattatg	ccaccatcat	gagcaaaagg	gtctgtgtcc	420
agctagtcc	ctgttagtgg	atgacaggat	tccttctcat	cattattcca	agttttcttg	480
tccttcagca	gccattctgt	ggccccaaca	tcattaacca	tttcttctgt	gacaacttcc	540
ccctcttgaa	actcatttgt	gcagacatga	ctctgataga	gtcctgggt	tttgttatag	600
ccaacgtcag	cttactgggc	actctgtcta	tgacggccac	ttgctatggc	cacatcctcc	660
acgccattct	gcacatcccc	tcagccaaag	agaagcagaa	agccttctcc	gcctgctcct	720
cccacatcat	tgctgtgtct	ctcttctatg	gcagctgcat	cttcatgtac	attcagtcag	780
gcaagagtga	ccagaaggaa	gacaggaaca	aggtggcggc	attgcttaac	accgtgggtga	840
ccctgatgct	caacccttc	atctacacc	tgaggaacaa	acaggtgaaa	caggtgttta	900
ggcagcaggt	gagcaaac	ctcatataaa	gctgtgtaaa	aaaaaaactg	aagctcagca	960
tccccaga						968

&lt;210&gt; 232

&lt;211&gt; 949

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g81 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 232

gaaataaaga	tagcaaacaa	cacagtagtg	acagaattta	tcctccttgg	tctgactcag	60
tetcaagata	ttcagctctt	ggtctttgtg	ctgatcttaa	ttttctacct	tatcatectc	120
cctggaaatt	tcctcatcat	tttcaccata	aagtcagatc	ctgggctcac	agcaccctcc	180
tattttcttc	tgggcaactt	ggccttcctg	gatgcatact	actccttcat	tgtggctccc	240
cggatgttgg	tggacttctt	ctctgcgaag	aatgtaatct	cctacagagg	ctgcatcact	300
cagctctttt	tcttgcaact	ccttgaggga	ggagagggat	tactccttgt	gatgtagcct	360
ttgaccgcta	catcgccatc	tgccggcctc	tgcaactatc	tactctcatg	aaccccagag	420
cttgctatgc	aatgatgttg	gctctgtggc	ttgggggttt	tgtccactcc	attatccagg	480
tggtcctcat	cctcgcttg	cctttttgtg	gccccaaaca	gctggacaac	ttcttctgtg	540
atgtcccaca	ggtcatcaag	ctggcttgca	ccgacacgtt	tgtgggtggag	cttctgatgg	600
tcttcaacag	tggcctgatg	acaactcctg	ctttctgggg	cttctggctt	cctatgcagt	660
catcctgtgc	catgttcgta	aggcagcttc	tgaattgaag	aacaaggcca	tgtccacgtg	720
caccactcat	gtcattatta	tacttcttat	gtttggacct	gctatcttca	tctacatgca	780
ccccttcagg	gccttaccag	ctgacaagg	ggtttcttcc	tttcacacag	tgatctttcc	840
attgatgaat	cctatgattt	atacccttcg	aaaccaggaa	gtgaaaactt	ccatgaagag	900
gttattgagt	cgacatgtag	tctgtcaagt	ggactttata	ataagaaac		949

&lt;210&gt; 233

&lt;211&gt; 857

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g82 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 233

gtcatagcaa	accagacaat	ggtaactgaa	ttcaccgggt	ctcccttctt	gctgtccagg	60
agcttcagat	ttggctatgt	gtccttctct	ggctggttca	tatgctcacc	ataacaggaa	120
accttttctg	cattttctta	acgtggacag	ataattgtct	ccaaacccca	atggacttgt	180
tccttagaaa	aaagtcatat	cgttctctgg	ctgcatcacc	caaatatatt	tctacttctt	240
tctagggaca	gtggcgttta	tccccttggc	agtgcacatc	ttcaaact	gcatggcaac	300
ctgtgacccc	ctgtgcagca	ccatcattgc	aaaaagcagg	gcctgcctcc	tgtggctct	360
gggatgctgg	atgggaacct	tcctggctgt	gttgccgctg	actattgtgg	tgtccaggtt	420

gccagactgt	actgaaaaaa	ttagtccctt	cttctgtgac	attgcctctt	tactgcaggt	480
ggcctgtatt	gatattcatt	tcattgagat	gataagcttc	ctttgatcat	ctcttatggt	540
cctgacctcg	ctgggtgctta	atgccacatc	ctacgcctac	atcattttctc	cctcctgtgc	600
atccccctcag	cccaaggatg	tcaggaggcc	ttttccacct	gtgcttcaca	catcaccatc	660
atctttattg	cctgccgaaa	ctccatctcc	acgtgtgtga	ggcctaacc	gaggtattag	720
ctggattttg	acaaagtgac	agctatcctc	actatagtag	tgacttcttt	tctgaatccc	780
cgcattttata	gcttgaggta	aagggaagtat	gaagggagtc	aatttgcaca	atactgtcac	840
cacattccaa	aggaaca					857

&lt;210&gt; 234

&lt;211&gt; 921

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g83 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 234

atggaaagcg	agaacagAAC	agtgataaga	gaattcatcc	tccttggtct	gacccagtct	60
caagatattc	agctcctggg	ctttgtgcta	gttttaatat	tctacttcat	catcctccct	120
ggaaattttc	tcattatttt	caccataaag	tcagaccctg	ggctcacagc	ccccctctat	180
ttctttctgg	gcaacttggc	cttcctggat	gcacccact	ccttcactgt	ggctccccgg	240
atggttggtg	acttccctct	tgcgaagaag	ataatctcct	acagaggctg	catcactcag	300
ctctttttct	tgcacttcc	tggaggagg	gagggattac	tccttggtgt	gatggccttt	360
gaccgctaca	tcgccatctg	cggcctctg	cactatccta	ctgtcatgaa	ccctagaacc	420
tgctatgcaa	tgatggtggc	tctgtggctt	gggggttttg	tccactccat	tatccagggtg	480
gtcctcatcc	tcgcttgcc	ttttgtggc	ccaaaccagc	tggacaactt	cttctgtgat	540
gtcccacagg	tcataagct	ggcctgcacc	gacacatttg	tgggtggagct	tctgatgggtc	600
ttcaacagtg	gcctgatgac	actcctgtgc	tttctggggc	ttctggcctc	ctatgcagtc	660
attctttgtc	gcatacgagg	gtcttcttct	gaggcaaaaa	acaaggccat	gtccacgtgc	720
atcacccata	tcattggtat	attcttcatg	tttggacctg	gcattctcat	ctacacgcgc	780
cccttcaggg	cttcccagc	tgacaagggtg	gtttctctct	tccacacagt	gatttttct	840
ttgttgaatc	ctgtcattta	tacccttcgc	aaccaggaag	tgaaagcttc	catgaaaaag	900
gtgtttaata	agcacatagc	c				921

&lt;210&gt; 235

&lt;211&gt; 927

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g84 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 235

atggaaaatc	aaaacaatgt	gactgaattc	attcttcttg	gtctcacaga	gaacctggag	60
ctgtggaaaa	tattttctgc	tgtgtttctt	gtcatgtatg	tagccacagt	gctggaaaat	120
ctacttattg	tggttaactat	tatcacaagt	cagagtctga	ggtcacctat	gtattttttt	180
cttaccttct	tgtccctttt	ggatgtcatg	ttctcatctg	tcgttgcccc	caagggtgatt	240
gtagacaccc	tctccaagag	cactaccatc	tctctcaaag	gctgcctcac	ccagctgttt	300
gtggagcatt	tctttggtgg	tgtggggatc	atcctcctca	ctgtgatggc	ctatgaccgc	360
tacgtggcca	tctgtaagcc	cctgcactac	acgatcatca	tgagtccacg	ggtgtgctgc	420
ctaattggtg	gaggggcttg	ggtgggggga	tttatgcacg	caatgataca	acttctcttc	480
atgtatcaaa	tacccttctg	tgttccta	atcatagatc	actttatatg	tgatttggtt	540
cagttgttga	cacttgccctg	cacggacacc	cacatcctgg	gcctcttagt	tacctcaac	600
agtgggatga	tgtgtgtggc	catctttctt	atcttaattg	cgctctacac	ggtcataccta	660
tgctccctga	agtcttacag	ctctaaagg	cggcacaaaag	ccctctctac	ctgcagctcc	720
cacctcacgg	tggttgtatt	gttctttgtc	ccctgtattt	tcttgtagat	gaggcctgtg	780
gtcactcacc	ccatagacaa	ggcaatggct	gtgtcagact	caatcatcac	acccatgtta	840
aatcccttga	tctatacact	gaggaatgca	gaggtgaaaa	gtgccatgaa	gaaactctgg	900
atgaaatggg	aggctttggc	tgggaaa				927

<210> 236  
 <211> 933  
 <212> DNA  
 <213> Unknown (H38g85 nucleotide)

<220>  
 <223> Synthetic construct

<400> 236  
 gtagaggata tgggtgccatt ctctatgagg atttcttgga tttttcaaat cttcatttta 60  
 cggctatcat caccttatct actaatattc tgtactgaca tgtgtaccat ttcagtttac 120  
 atattctcat atagtaaaat gtttaactgca aggggaattta cctcaaacc aaaccattaa 180  
 cgtaacttca gagacaatat ggattaagat tatccatgat ttccttcattg aaccaagac 240  
 tatctccttt gagggctgca tggccagat attcttggtc catgtctttg ctggtggtga 300  
 gatggtgctc ctgtagcca tggcatatga catatatgta gccatatgca aacctctcca 360  
 ttatgcaacc atcatgaact tgtgcacatg tacaggccta gtggtaggat cttgggtcac 420  
 tggagttatg cactccctga gccagtttag tttcactgta agtttgccct tctgtggccc 480  
 aaacatagtg gacagttatt attgtgacct tactttggtc atcaaacttg cctgtacaga 540  
 tacttatatc cctgaagcgt tgatgctttt ggacagtggg cttatggggg tgacttcatt 600  
 ttgcttttgc tgatctccta cacggtcatt ctgattactg tgcagcgacc ttcctcagca 660  
 ggtatggcca aggtctgcag cactctgact gccacagtga ctgtggtgac cctgttcttt 720  
 gggccttgta tcttcatcta tgccctggcc ttcagcaact taccagtgga taacattttg 780  
 tctgtattct ctacagtttt cacacctata ttaaaccccc ttatctacac actgagaaac 840  
 aaagaggtaa aatcagcaat tcataacctg aagaccagt atgtaacttc caggctgtct 900  
 tcccagctct ctctcatagg actagatttg ttg 933

<210> 237  
 <211> 629  
 <212> DNA  
 <213> Unknown (H38g86 nucleotide)

<220>  
 <223> Synthetic construct

<400> 237  
 ttgggaaatg tctcaacaga gactactttt atttttggtt gtttcacaaa tggacaacaa 60  
 ttccagcctg tatgcttctc ctcattttta gtgcttggcc actcagtgtc tgggctaagt 120  
 tctctctca acatcctggg gaacttgtct tcagcttggt ttcttttggt ttgtttttc 180  
 agatgtccta ctctttgtc attttaatta aaatgataat gaactctata tctgagaggt 240  
 acatcaccac taatttgaag tgcaagatc tgcccttgct tttatctgct ttgctatcag 300  
 tgagcactct aatacttttg gcttgggggtc actgtgggat ctgtgtgcct caggctgtgt 360  
 ctctgacgat gcttggcctg cactggggta ggtattgatg gtgtcatggc ccaccagag 420  
 gcaatgggtca gtctgtcttt ctgtgaccgc agcatcatca accactgtgt gtggcacact 480  
 tcttttcatc aaactctcct tagagcact gttcacaag ctggtgattt tgtagtcatt 540  
 gcgtagtgtg tgatcatctt catctctgac atactatcct ttccaccatc ctccattttc 600  
 tctttctga ggcaaaactca aaagctttt 629

<210> 238  
 <211> 822  
 <212> DNA  
 <213> Unknown (H38g87 nucleotide)

<220>  
 <223> Synthetic construct

<400> 238  
 atggggaatc tgggcatgat catggtcatc aggatcaacc ccaaactcca caccctatg 60  
 tactttttcc tcagccactt gtcctttggt gatttctgtt attccaccac aattacacca 120  
 aaactgctgg agaacttggt tggggaagac agaatcatct ccttcacagg atgcatcatg 180  
 caattcttct ttgctgtat atttgtggtg acagaaacat tcatgctggc agcgatggct 240  
 tatgacagat ttgtggcagt gtgtaaccct ctgctttaca cagttgcaat gtcccagagg 300

ctttgtctct	tgtagtggt	tgcatacat	tcttgaggt	tagtttggt	cttaacatac	360
acatactttc	tgtagactt	atctttttgt	aggactaact	tcattaataa	ctttgtctgt	420
gagcacgtg	ccattgttg	tgtgtctgc	tctgacccct	acatgagcca	gaaggtcatt	480
ttagtttctg	caacattcaa	tgaaataagc	agcctggtga	tcattctcac	ttcctatgct	540
ttcattttta	tactgtcat	gaagatgcct	tccactgggg	ggcgcaagaa	agcgttctcc	600
acgtgtgcct	cccacctgac	cgccattacc	attttccatg	ggactatcct	ttttctctac	660
tgtgttccca	actccaaaag	ttcatggctc	atgggtcaagg	tggcctctgt	cttttacaca	720
gtgggtcattc	ccatgctgaa	ccccttgatc	tatagcctca	ggaacaaaga	tgtaaaagag	780
acagtcagga	agtttagtcat	taccaaatta	ttatgtcata	aa		822

&lt;210&gt; 239

&lt;211&gt; 1041

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g88 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 239

atgaccaaca	gcagtgtcaa	gggagacttc	atcctgggtg	gtttctctca	tcagccccac	60
ctggaaaaga	tctcttttgt	ggctgttttg	atatectatc	tccttaccct	tgtgggaaat	120
acagtaatta	ttctgatctg	ctctgtagac	cctaaactca	agacacccat	gtattttttc	180
ttactcacct	ctccttagtt	gatatactgt	ttaccaccag	tattgtcccc	cagctgctgt	240
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ccatttgata	gtagtgtccc	tcttctgtgg	gaccatcaca	gctgtctaca	tccagtccaa	780
cagttcttat	gcccagtctc	atgggaagtt	catctccctc	ttctatacac	ttgtgacccc	840
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atttaacaga	gacttaggca	cataaaaaat	gaagcagagt	acacagcgct	caactttttt	960
cacaaagcaa	ctttaaaggt	catcttgtat	aatttttcac	tcaagaactt	tgccagtctg	1020
taaaggaaga	gatgtaatct	t				1041

&lt;210&gt; 240

&lt;211&gt; 957

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g89 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 240

atggataagt	ccaattcttc	agtgggtgtc	gaatttgtag	tgttgggact	ctgtagttct	60
caaaaactcc	agcttttcta	tttttgtttc	ttctctgtgt	tgtatacagt	cattgtgctg	120
ggaaatcttc	tcattatcct	cacagtgact	tctgatacca	gcctgcactc	ccctatgtac	180
tttctcttgg	gaaacctttc	ctttgttgac	atthgtcagg	cttcttttgc	taccctaaa	240
atgattgcag	atthtctgag	tgcacacgag	accatatctt	tcagtggctg	catagcccaa	300
atthtcttta	ttcacctttt	tactggaggg	gagatgggtg	tacttgtttc	gatggcctat	360
gacaggtatg	tagccatatg	caaaccctta	tactatgtgg	tcacatgag	ccgaaggaca	420
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attcttgtta	cagtttggct	caagtcttca	gctgcaatgg	caaaggcatt	ttctacgctg	720
gcttccata	ttgcagtagt	aatattatct	tttggaacct	gcactcttcat	ctatgtgtgg	780
ccctttacca	tctctccttt	ggataaattt	cttgccatat	tttacctgt	tttcccccc	840

gtcctaaacc ccattatttta tacactaagg aatagggata tgaaggctgc cgtaaggaaa 900  
attgtgaacc attacctgag gccaaaggaga atttctgaaa tgtcactagt agtgaga 957

<210> 241

<211> 935

<212> DNA

<213> Unknown (H38g90 nucleotide)

<220>

<223> Synthetic construct

<400> 241

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ccgggactcc	agatccccgc	cttcttcctg	tttctaggtt	tctacgcggg	cacgggtggg	120
gggaacctgg	gcttgataat	cctgataggg	ctcaactctc	gcctgcatat	ccccatgtac	180
tttttccctt	tcaacttgtc	cttcatagat	tttagttatt	ccactaccct	cgccccataa	240
atgctgatga	gctttgtctc	agagaacatc	atttcctatg	cagggtgtat	gactcagctt	300
tttttcttct	gtttctttgt	cttttctgaa	tcctatatcc	tatcagcgat	ggcgtatgac	360
cgctacgtgg	gcactctgaa	cccactgttg	tacacgggtc	ccatgtctcc	ccagatgtgt	420
ttgctccttt	tactgggtgt	ctatgggatg	gggattttgg	ggctgtgggt	catatgggaa	480
acataatgtt	tatgtccttt	tgtggagaca	accttggtcaa	tcactatatg	tgtgacatcc	540
ttcctctcct	tgagctctcc	tgcaacagct	cttacataaa	tttgcgtggg	gtttttatta	600
ttgtgaccgt	tggcattggg	gtgccgattg	tcaccatttt	tctctcttat	ggttttattc	660
tttccagcat	tctccacatt	agttccacag	agggcagggtc	taaagccttc	agtacctgca	720
gttccacat	aattgtggta	tcgcttttct	ttgggtcagg	tgctttcatg	tacctcaaac	780
caccttctat	tctacccctg	gaccagggga	aagtgtctct	cattttttgt	actgctgtgg	840
tgcccatgtt	taaccacatta	atctacagcc	tgaggaataa	agatgtcaaa	gttgccctga	900
ggagaacctt	ttgcagaaaa	ttagtctctt	aaaaa			935

<210> 242

<211> 1071

<212> DNA

<213> Unknown (H38g91 nucleotide)

<220>

<223> Synthetic construct

<400> 242

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ccatggctag	agattccacc	ctttgtgatg	tttctgtttt	cctatatctt	gacaatcttt	120
ggcaatctga	caataattct	tgtgtcacat	gtggatttca	aactccacac	ccctatgtac	180
ttttttctta	gcaatctctc	actcctggac	ctttgtctata	ccacaagtac	agttccacaa	240
atgctggtaa	acatatgcaa	caccagggaa	gtaatcagtt	atgggtggctg	tgtggcccg	300
cttttcatct	tectggcctt	gggttccaca	gaatgtcttc	tectggccgt	catgtgcttt	360
gataggtttg	tagctatttg	tcggcctctc	cattactcaa	ttatcatgca	ccagaggctc	420
tgtctccagt	tggcagctgc	atcctggatt	agtggcttta	gcaattcagt	attacagtcc	480
acctggacac	ttaagatgcc	actgtgtggg	cacaaagaag	tggatcactt	cttctgtgaa	540
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attgtccaag	cagtgttgag	aatccagctc	gctgaagggtc	aacgaaaggc	atttgggaca	720
tgtggctccc	atctaattgt	gggtgtcactt	ttttatggta	cagctatctc	catgtacctg	780
caaccacctt	caccagctc	caaagaccgg	ggaaagatgg	tttctctctt	ctgtggaatc	840
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tttaaaagg	tggttgcaaa	gagtcttctt	aatcaagaaa	taagaaatat	gcaaatgata	960
agctttgcta	aagacacagt	gcttacttac	cttactaact	tctccgcaag	ttgtcctatt	1020
tttgtcatta	ctatagaaaa	ctattgtaat	ctccctcaaa	gaaaatttcc	t	1071

<210> 243

<211> 959

<212> DNA

<213> Unknown (H38g92 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 243

cacacagagc	cacggaatct	cacaggagcc	tgagaactcc	tcctcctggg	actctcagag	60
gatccagaac	tgcagcccat	cctcgctggg	ctgtccctgt	ccatgtatct	ggtcacgggtg	120
ctgaggaacc	tcctcatcag	cctggctgtc	agctctgact	cccacctcca	caccccaatg	180
tgcttcttcc	tctccaacct	gtgctgggct	gacatcggtt	tcacctcggc	cacggttccc	240
aagatgattg	tggacatgcg	gtcgcatagc	ggagtcactc	cttatgcgga	ctgcctgaca	300
cggatgtctt	tcttggtcct	ttttgcatgt	gtagaagaca	tgctcctgac	tgtgatggcc	360
tatgactgct	ttgtagccat	ctgtcgccct	ctgcactacc	cagtcacgtg	gaatcctcac	420
ctctgtgtct	tcttagtttc	ggtgtccttt	tccttagcct	gttggattcc	cagctgcgca	480
gttggattgt	gttgcaattc	accttcttca	agaatgtgga	aatctctaata	tttgtctgtg	540
acccatctca	acctctcaag	cttgccctgtt	ctgacagcat	catcgatagc	atgttcatat	600
atttcgatag	tactatgttt	ggttttcttc	ccatttcagg	gacccctttg	tcttactata	660
aaattgtccc	ctccattcta	aggatttcat	cgtcagatgg	gtagtataaaa	gccttctccg	720
ccgtggctc	tcacctgcc	gttggttgc	tattttatgg	aacaggcatt	ggcgtgtacc	780
tgacttcagc	tgtggcacca	cccctcagga	atggtgtggg	ggcgtcagtg	acgtatgctg	840
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ccctgtggag	gctgcgccagc	agaacagtca	aatctcatga	tctgttccat	cctttttct	959

&lt;210&gt; 244

&lt;211&gt; 939

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g93 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 244

atggaggggt	tcaactgttc	cagagtatct	gaattcatgt	tacttggact	tactgattct	60
cctgaactcc	agagattctt	ttttgtggta	ttttctgtct	tctatttaata	gaccatgttg	120
ggcaactgcc	tgattttgct	cactgtgcta	tcacctcac	accttcactc	tcccatgtac	180
ttcctgctca	gcaacctgtc	tctcattgac	atgtgcctgt	cctcctttgc	cacaccaaag	240
atgattatgg	acttttttgc	tctgcgtaag	accatctctt	ttgaaggctg	catttctcag	300
atcttttttt	gcacctcttc	accgggactg	agattgtgct	gctgatctcc	atgtcttttg	360
acaggatata	tgccatatgt	aaacctctcc	attattcaac	aattatgagc	caaagagtgt	420
gtgttgagct	tgtggccggt	tcttgacag	tgggctttct	gcatacaatg	agccaattag	480
cttttaccct	ctatttgccc	ttctgtggtc	ccaatgttgt	agagtttttt	ctgtgatctt	540
cctttgggtca	tcagctagc	ttgtatggat	atztatgttc	ttgggatctt	catgatttca	600
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gcacatttta	ttgttgtggt	aatgttcttt	gggccctgta	ttttcattta	tgtgtggcct	780
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ctgaatccac	ttatctatac	tttgagaaac	caggaagtga	agacagcaat	gaagaagtaa	900
ctgaatattc	agtatttcag	tcttgggaaa	actgctccg			939

&lt;210&gt; 245

&lt;211&gt; 1014

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g94 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 245

atgatattgc	ctgctagctt	ttcttaagga	acaatggaaa	caagcagtg	aagttctgga	60
acagatttca	tccttctggg	gttttctgat	cgaccccaat	tagagcacat	catctcagtg	120
gttgtcttca	tcattctatat	tgtgactctg	gtaggaaata	caaccatcat	tcttgtatct	180
tatctagaca	ccagctcca	taccttcagt	tattttttct	tatccaattt	gtctttcttg	240

gacctctgtt	atacaactag	cattatcccc	cagatgctgg	caaatcaatg	gggccccaaa	300
aaatctatta	cttatggagg	gtgtgtactc	caattctttt	ttgtccttga	cttgggagcc	360
acagaatgtc	ttctgttggc	tgtgatggcc	tatgatcggt	atgctgctgt	ctgtcaacct	420
cttcactaca	ccttaaaatg	caccctcagc	tttgccactg	cctgggttgag	tggctcttgcc	480
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cttatctcat	atggagttat	cactcaagct	gtaatgagga	tcaagtcagc	aacaagggtg	720
caaaagatcc	ttaatacatg	tggctcccac	ctcacagtag	taattctgtt	ttatggaaca	780
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agatgtaaag	agtgcactga	agagaatact	gtggatgaaa	aaatcttcag	cagaatcatg	960
aattagatgg	aaaaaagtag	aatgtagagc	actaaagaaa	tattggcatt	tatc	1014

&lt;210&gt; 246

&lt;211&gt; 941

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g95 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 246

atgcaccaag	gaaattgaac	tactgtctct	aaattctttc	tcctgggaat	cacaacaaag	60
cctaaagagc	agcagtttat	cttcatgctg	tttctatgca	cgtatctggg	cactatggta	120
agaaatttac	ttatcactct	ggccgttgct	agtgatgctc	acctccatgg	ccccatatat	180
ttcttccttg	ccaatctatc	tttcaactaa	gtctgcatca	caaccactac	agtccccaaa	240
atcttggcag	atattcaaag	ccagaattca	accatatcct	ttgaaggatg	ccctgcacaa	300
atgtagtttt	aaatattcct	ggtggatctg	gataatttcc	tattggtaga	catggcatat	360
aattgatata	ttgccatctg	tcaccattta	cactatatgt	ggtagtactg	agtcccaaga	420
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tcagtctgct	aagccactta	actttctgtg	atttcacata	tcttctatga	cctggaaacc	540
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gcactatgct	tggagtcca	tcagccaagg	ggaagtagaa	aacattctct	acatgtgggt	720
cccactcttc	agttgtgccc	caggtcttct	atgggttcat	cattggagtc	tactttctct	780
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ggagaccact	cagcagacaa	ggtttttctg	gagtggtgag	c		941

&lt;210&gt; 247

&lt;211&gt; 941

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g96 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 247

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ctgagcagcg	gaatctgttc	tatgccttgt	tcttgccgt	gtatcttacc	accctcctgg	120
ggaacctcct	cgtcattgtc	ctcattcgac	tggactccca	cctccacatg	cctatgtatt	180
tgtgtctcag	caacttgctc	ttctctgacc	tctgcttttc	ctcggtcaca	atgcccaaat	240
tgctgcagaa	catgcagagc	caaaacccat	ccatccccct	tgccggactgc	ctggctcaga	300
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gccttggct	gctgacactc	tcctggctgt	tgaccactgc	ccatgccacg	ttgcacacct	480
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tgaccacat	gctgaacccc	ttcatctaca	gcctgaggaa	cagagacatg	agggggaacc	900
ctgggcagag	tcttcagcac	aaagaaaatt	tttttgcctt	t		941

&lt;210&gt; 248

&lt;211&gt; 994

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g97 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 248

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ccgggactcc	aggtccccgt	cttcttccctg	tttctaggtt	tctacgcggt	cacgggtggtg	120
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gaccgctacg	tgggcatctg	taacccactg	ttgtacacga	tcaccatgtc	tccccagggtg	420
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ctgaagagaa	ccttttccag	aataagcttt	tcttgaaaaa	aatttttagaa	acagaaaaga	960
gatactagga	tttttttaaa	atcagattgc	tttt			994

&lt;210&gt; 249

&lt;211&gt; 942

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g98 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 249

atgtcgaatg	aggacatgga	acaggataat	acaacattgc	tgacagagtt	tgttctcaca	60
ggacttacat	atcagccaga	gtggaaaatg	cccctgttct	tggtgttctt	ggtgatctat	120
ctcatcacta	ttgtgtggaa	ccttggtctg	attgctctta	tctggaatga	cccacaactt	180
cacatcccca	tgtacttttt	tcttgggagt	ttagcctttg	ttgatgcttg	gatattcttc	240
acagtaactc	ccaaaatggt	ggttaatttc	ttggccaaaa	acaggatgat	atctctgtct	300
gaatgcatga	ttcaattttt	ttcctttgca	tttgggtggaa	ctacagaatg	ttttctcttg	360
gcaacaatgg	catatgatcg	ctatgtagcc	atatgcaaac	ctttactata	tccagtgtat	420
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gccttaatte	atgaagtcct	tatattcaga	ttaaccttct	gcaattctaa	cataatacat	540
catttttact	gtgatattat	accactgttt	atgatttctt	gtactgaccc	ttctattaat	600
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atcttcatgt	atttgcgccc	tgcattctcca	caagcagatg	accaagatat	gatagactct	840
gtcttttata	caatcataat	tccttttgcta	aatcccatata	tctacagtct	gagaaataaa	900
caagtaatag	attcattcac	aaaaatggta	aaaagaaatg	tt		942

&lt;210&gt; 250

&lt;211&gt; 939

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g99 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 250

atggaggagg	aaaatctgac	cagcatctca	gaatgtttcc	tcctgggggt	ctctgagcag	60
ctggaggagc	agaagcccct	ctttgggtcc	ttcctgttca	tgtacttggt	cacgggtggca	120
ggcaacctcc	tcattcattct	agtcattcatt	actgacactc	aactccatac	ccccatgtac	180
ttctttctag	ccaacctctc	ccttgacagat	gcctgctttg	tgtccaccac	agtcacctaa	240
atgctggcaa	acatacagat	ccagagtcag	gccatctcct	actcagggtg	tctactacag	300
ttgtattttt	tcattgttatt	tgtgatgctg	gaggcattcc	tcttggcggt	catggcctat	360
gactgctacg	tggccatatg	ccaccacttt	cattacattc	tgatcatgag	ccctgggctc	420
tgcattctcc	tcgtgtctgc	atcctggatc	atgaatgccc	tccactccct	tctacacaca	480
cttctgatga	acagcctgtc	cttctgcgca	aaccatgaga	tcacacactt	cttctgtgac	540
atcaatcccc	tcctgagctc	gtcctgcaca	gaccccttca	ccaatgagct	ggatgatctc	600
atcactgggg	gtctcacagg	actcatttgt	gtgctttgcc	tgattatctc	ttacacgaac	660
gtttttctga	gcatcctgaa	gatcccatca	gctcaggggg	agcggaaaag	cttttccacc	720
tgcagctctc	atctctccgt	ggctctctct	ttctttggga	cttctttttg	tgttgatttc	780
agttctccct	caaccactc	ggcccagaag	gacacagttg	catcagtgat	gtacacagtg	840
gtaactccaa	tgttgaatcc	ctttatctac	agtttgagga	accaagaaat	aaagtcttcc	900
ctgagaaagt	taatctgggt	tcggaaaatt	cattcccct			939

&lt;210&gt; 251

&lt;211&gt; 931

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g100 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 251

atggaagagg	aaaatgcaac	attgctgaca	gagtttggtc	tcacaggact	tttatatcaa	60
ccacagtggg	aaataccctt	gttcctgaca	ttcttggtta	tatatctcat	caccatcatg	120
gggaatcttg	gtctgattgc	tgtcatctgg	aaagaccctc	accttcagat	cccaatgtac	180
ttactcctcg	ggaatttagc	ttttgtagat	gcttgatgat	catctacagt	gactccaaag	240
atgctgaata	acttcttagc	taagagtaag	atggatctct	tgctgaaag	caaaatacag	300
ttttttctgt	ttgcaatcag	tgtaaccact	gaatgttttc	tcctggcaac	aatggcatat	360
gatcgctatg	tagccatatg	caaaccctta	ctttatccag	ccattatgac	caatggactg	420
tgcattccgg	tatgtagggt	gtcttcttca	tgcttttaac	catgaaggat	ttttattcag	480
actaaccttc	tgtaactcca	acgtagtaca	ccacattttac	tgtgacatta	tcccattgtc	540
taagattttc	tgtactgatt	cttctattaa	ttttctaatg	gtttttatct	tctcaggttc	600
aattcaagtt	ttcaccattg	ggactgggtc	tatatcttat	acatttggtc	tctttacaat	660
cttgaaaaag	aaatctgtca	aaggtataag	aaaagccttc	tccacctgtg	gagctcatct	720
cttatctgta	tctttatacc	atgggcccct	cgacttcatg	tatatgggct	ctgcatcccc	780
acaggctgat	gacgaagaca	tgatggagtc	tctattttac	actgtcatag	ttcctttatt	840
aaatcccatg	acctacagcc	tgagaaacaa	acaagtaata	gcttcattca	caaaaatggt	900
caaaagaaat	aatattttag	tctcttactc	a			931

&lt;210&gt; 252

&lt;211&gt; 690

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g101 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 252

ttctgtttgt	tcccagccac	agtcctcaag	gcagtgggtg	aatttttggc	agagacaatt	60
tcctttctct	attatgtgat	acaaatgctg	gtatttttgt	tctttgtgac	tactgaatgc	120
aatcttttag	cctccctggg	caaggacatt	tatatgccaa	tcagacaacc	catgctctat	180

cctgtcacta	tgtcccaagt	ttgttgatc	caattagtgg	cttcatgtta	cgggcatgga	240
gttatccata	ctatgttttt	aggaggttca	atctctatat	ttgccttttg	taagttcaaa	300
ccatcatcag	cttttttggt	gacagtttcc	cactcttggg	cctctcctgc	tcagacacct	360
acataatgaa	ttctttgttc	tttttcactg	gggtgcttcat	ttggatgagc	tcttgaccag	420
tcacacctgt	ctccacatg	ttcatcattg	tcactttctt	gaggatcttc	tcagttgtag	480
ttgaatctaa	agggtttctt	gctttttctt	cacatctaac	tgctatcatt	ctcttctatg	540
gggacattat	atztatatat	gtgacattct	tccaactatt	ttctgaacca	agaccagact	600
gtatccattt	tctacatggg	aagaattctt	ttgttaagcc	ccattatcta	ttgtttaata	660
aaaatgcaag	tgatttggtt	tcttgaaaat				690

&lt;210&gt; 253

&lt;211&gt; 647

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g102 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 253

cttttttttt	ttgtctgaca	cagcatcctg	acctgatagg	aaggagtaaa	agaaatttgg	60
tactttcagg	aattttctgac	atatccaaga	catagaaact	cctgtttgtc	tcttctcgca	120
tgtattatct	ctcaagaatt	ttcctaagga	ggacagtaaa	cattctatct	ctgcttaagg	180
ttatctcatt	gctttgttat	gggtcaaaac	tcagtttgtt	cattttttgt	gttactgcag	240
aatttttagct	tttgccctcc	aggatctgcc	attgctatat	tattatttgt	aaccattctt	300
ctaccaaat	ctcacattaa	aagcttttaa	tttcaattct	gacggctcat	tacaataaga	360
gagtatgtat	ttcaataaca	acatcaaaca	ctatgtctta	gctcttcttt	ggcagatcca	420
atgtggtgaa	caacttctct	gatcttctct	tgctcttaga	tttatectgc	acatttgtga	480
gtttctgac	tccatctcag	cttctctgac	atagtcctgg	tccccataat	tttatcattg	540
tggtcaatat	aaagatttag	ttagctgaag	ggaagcaca	agacttctct	atctgtccat	600
tataatttgc	tactgtcagc	aattttttta	tggcacacat	acatatt		647

&lt;210&gt; 254

&lt;211&gt; 936

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g103 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 254

ttcatggaaa	ataggaatat	tgtcactgtc	tttattctcc	tgggaactttc	tcaaaacaag	60
aacattgaag	tttttttggt	tgtattatct	gtattttgct	acattgctat	ttggatggaa	120
aacttcatca	taatgatttc	tatcatgtac	attttagctaa	ttgaccaacc	catgtatttc	180
ttccttaatt	acctcgcaat	ctcagatctt	tgctacatat	ccactgtggc	ccccaagcta	240
atgattgacc	tactaacaga	aaggaagatc	gtttcctata	ataactgcat	gatacagcta	300
tttatcactc	acttccttgg	agacattgag	atcttcatac	tcaaagcaat	ggcctatgac	360
cactacatag	ccatctgcaa	gcacctgcac	tacaccatca	tcacgacca	gcaaagctgt	420
aacaccatca	tcatagcttg	ttgtactggg	ggattttatac	actctgccag	tcagtttctt	480
cttaccatct	tcttaccgtt	ctgtgggtct	aatgagatag	atcagtactt	ctgctatgtg	540
tatcctctgc	tgaagtgggc	tgcatttgat	atatacagaa	ttggtttctt	ggtaattggt	600
aattcaggcc	tgatttcttt	gttggctttt	gtgattttga	tggtgtctta	ttatttgata	660
ttatccacca	tcagggttta	ctctgctgag	agtcatacca	aagctctttc	aacctgtagc	720
tctcacataa	tagttgtggg	cctattcttt	gtgcctggcc	tcttcattta	catcagacca	780
gccataactt	ttccagaaga	taaagtgttt	gttctcttct	gtgccatcat	tgctcccag	840
ttcagttctt	ttatctacat	gctgagaaag	gtggagatga	agaacgctgt	aaggaaaatg	900
tggtgtcctc	aattgcttct	ggcaaggaag	taactt			936

&lt;210&gt; 255

&lt;211&gt; 924

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g104 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 255

atggccatgg	acaatgtcac	agcagtgttt	cagtttctcc	ttattggcat	ttctaactat	60
cctcaatgga	gagacacgtt	tttcacatta	gtgctgataa	tttacctcag	cacattgttg	120
gggaatggat	ttatgatctt	tcttattcac	tttgacccca	acctccacac	tccaatctac	180
ttcttcctta	gtaacctgtc	tttcttagac	ctttgttatg	gaacagcttc	catgcccag	240
gctttggtgc	attgtttctc	tacccatccc	tacctctctt	atccccgatg	tttggtcaa	300
acgagtgtct	ccttggtttt	ggccacagca	gagtgcctcc	tactggctgc	catggcctat	360
gaccgtgtgg	ttgctatcag	caatcccctg	cgttattcag	tggttatgaa	tggcccagtg	420
tgtgtctgct	tggttgctac	ctcatggggg	acatcacttg	tgctcactgc	catgctcatc	480
ctatccctga	ggcttcactt	ctgtggggct	aatgtcatca	accattttgc	ctgtgagatt	540
ctctccctca	ttaagctgac	ctgttctgat	accagcctca	atgaatttat	gacccctcatc	600
accagtatct	tcacctgct	gtaccatttt	gggtttgttc	tcctctccta	catacgaatt	660
gctatggcta	tcataaggat	tcgctcactc	cagggcaggc	tcaaggcctt	taccacatgt	720
ggctctcacc	tgaccgtggt	gacaatcttc	tatgggtcag	ccatctccat	gtatatgaaa	780
actcagtcca	agtcctaccc	tgaccaggac	aagtttatct	cagtgtttta	tggagctttg	840
acacccatgt	tgaacccct	gatatatagc	ctgagaaaaa	aagatgttaa	acgggcaata	900
aggaaagtta	tgttgaaaag	gaca				924

&lt;210&gt; 256

&lt;211&gt; 971

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g105 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 256

atggaagcag	aaaaccttac	agaattatca	gaattcctcc	tcttaggact	ctcagatgat	60
cctgaactgc	agcccgctct	ctttgggctg	ttcctgtcca	tgtacctggt	catgggtgctg	120
gggaacctac	tcatacatct	ggccgtcagc	tctgactccc	acctccacag	ccccatgtaa	180
ttcttcctct	ccaacttgtc	ctttgtggac	acctgtttca	tctgcaccac	agtccccaag	240
atgctagtga	acatccaggc	acggagcaaa	gacatctcct	acatgggggtg	cctcactcag	300
gtgtattttt	aaatgatgtt	tgtggaatg	gatactttcc	tactggctgt	gatagcctat	360
gaccggtttg	tggccatctg	ccaccactg	cagtacatgg	tcatacataaa	cccccatctc	420
tgtggcctcc	tggttctggc	atcttggttc	atcattttct	ggttctccct	ggttcatatt	480
ctactgatga	agaggctgac	cttctccaca	ggcactgaga	ttccgcattt	cttctgtgaa	540
ctggctcagg	tcctcaaggt	ggcccgtct	gatgctctcc	tcattaacat	tgtcttgtat	600
gtggccacgg	cactgctggg	tgtgtttcct	gtagctggga	tcctcttctc	ctactctcag	660
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tgtggatctc	acctctgtgt	ggtctccttg	ttctatggaa	caggacttgg	ggtctatctg	780
agttctgctg	tgaccatttc	ttcccagagc	agctccatgg	cctcagtgat	gtacgccatg	840
gtcaccccca	tgtgaaccc	cttcatctac	agcctgagga	acaaggatgt	gaagggggcc	900
ctggggagac	tccttagcag	ggcagcctct	tgtctcttac	ggtacacaa	ctcagaacta	960
agaggatgct	a					971

&lt;210&gt; 257

&lt;211&gt; 873

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g106 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 257

atggaggggt	tcaactattc	cagagtatct	gaattcatgt	tacttggaact	tactgattct	60
cctgaactcc	agatattctt	ttctgtgggtg	ttttctgtct	tctatttaat	gaccatgttg	120
ggcaactgcc	tgattttgct	cactgtccta	tcacctcac	accttcactc	tcgcatgtac	180

ttcctgctca	gcaacatgtc	tcattgacat	gtgcctgtcc	tcctttgcc	caccaaagat	240
gattatggac	ttttttgtc	tgcgtaacac	catctctttt	gaaggctgca	tttctcagat	300
ctttttttta	cacctcttca	atgggactga	gattgtgctg	ttgatctcca	tgtcttttga	360
caggtatatt	gccatatgta	aacctctcca	ctattcaaca	attatgagcc	aaagagtgtg	420
tgttgagctt	gtggcagttt	cttgttggac	agtgggcttt	ctacatacaa	tgagccaatt	480
agtttttccc	tctatttgcc	cttctgtgtt	cccaatgttg	tagacagttt	tttctgtgat	540
cttccttttg	tcattccagtt	agcttgtata	gatatttatg	ttcttgggac	ctccatgatt	600
tcaaccagtg	gtgtgattgc	tcttataagt	tttctgtctt	tgctcacctc	ctacatcatt	660
gttcttaata	ttgtcaggg	ctactcctcc	acaggatcct	ccaaggctct	ttctacctgt	720
acagcgcat	ttattgttgc	gttaatgttc	tttgggccct	gtattttcat	ttatgtgtgg	780
ccttcacaaa	acttctcgtg	agacaaaatt	ctctccgctt	tctataccat	cttcactccc	840
tttctgaatc	cacttatcta	tactttgaga	aac			873

&lt;210&gt; 258

&lt;211&gt; 985

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g107 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 258

tacacagagc	cacagaatct	cacaggtgtc	tcagaattcc	tcctcctggg	actctcagag	60
gatccagaac	tgcagccggt	cctcgctggg	ctgttcctgt	ccatgtacct	ggteacgggtg	120
ctggggaacc	tgctcatcat	cctggctgtc	agctctgact	cccacctcca	cacccccatg	180
tacttcttcc	tctccaacct	gtccttggct	gacatcggtt	tcacctccac	cacgggtcccc	240
aagatgattg	tggacatgca	aactcacagc	agagtcacct	cctatgaagg	ctgcctgact	300
cagatgtcct	tttttgtcct	ttttgcatgt	atggatgaca	tgctcctgag	tgtgatggcc	360
tatgaccggt	ttgtggccat	ctgtcacccc	ctgcactacc	gaatcatcat	gaacccacgc	420
ctctgtggct	tcttaatctt	gttgtctttt	tttattagtc	ttttggactc	ccagttgcac	480
aatttgatta	tgttacagct	cacctgcttc	aaggatgtgg	acatttctaa	tttcttctgt	540
gaccttctc	aactcctcca	ccttaggtgt	tccgacacct	tcataaatga	aatggtcata	600
tatttcatgg	gtgccatatt	tggctgtctc	cctatctcag	ggatcctttt	ctcttactat	660
aaaattgttt	ccccattct	gagagttcca	acatcagatg	ggaagtataa	agccttctcc	720
acctgtggct	ctcacctggc	agttgtttgc	ttattttatg	gaacagggct	tgtagggtac	780
ctcagttcag	ctgtgttacc	atcccccagg	aagagtatgg	tggcttcagt	gatgtacact	840
gtggtcaccc	ccatgctgaa	ccccttcac	tacagcctga	ggaacaagga	cattcaaagt	900
gcctgtgtga	ggctgcatgg	cagaatcatc	aaatctcatc	atctccatcc	tttttgttat	960
atgggataga	aatggcagca	aaatt				985

&lt;210&gt; 259

&lt;211&gt; 976

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g108 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 259

ctcaccatgc	cacacctcag	caacaccaca	tctgagttcc	caatcttcct	cctaacaggc	60
ttccctgggc	tggaggcctt	ccacatctgg	atctcaattc	ccttcttcct	tctgagcaca	120
gttgcctctc	tagggaaacag	catgatccta	ttggttgcta	ttctggagcc	aaacctccat	180
gaacccatgt	actgttttct	cttcatgctg	tctgccgctg	acctggggct	gacctctcc	240
acaatgccc	cgacctcag	tgtcctctgg	ttcagtgcac	gtgaaatcat	cctcaatgca	300
tgtatcatcc	agctcttttt	cctccacagc	tctggcttta	tggaaatctc	agtactgatg	360
gccatggctt	ttgaccgctt	tgttgccatt	tgcagacccc	tcagatatgc	taccatcctg	420
acagactcca	gaattctaaa	gattgggtga	gcaatagtcc	taagaacatt	gatcagcctc	480
tctccatccc	tctttctcat	taagagactg	tcattttgca	aagtcaatgt	cctttcccat	540
tcttactgtt	tccacctga	tgcgcttaaa	gttgcattgt	ctgattcaag	gatgaacagc	600
tatggaggct	tagctgttct	cattctgtgc	accgggggtg	gtacaccatg	tgttgcgctt	660
tcctacatcc	tgataatcca	ctctgtacta	aacatcatct	cttcagaggg	acggagggaag	720

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gccttcgaca cttgtggatc tcacattggg gcagttgcag tcttctacat tccctgggtt 780
gttctttcag ttgtccacag atttttccac aaggcttcac caatatgtcc acccactatt 840
gtccaacatc tatttccttg gcccctctcg gctgaacccc atcatatata gtgtgaagac 900
taaacaaatc cgcagggcta tctcctaaact ctttcaaaca aaatcaaaag aaatgtaatg 960
ggggcttttc ttcctg 976

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&lt;210&gt; 260

&lt;211&gt; 884

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g109 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 260

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atccaatgca agggctaata gaagtgaatt aagacattct ctgtaactcc aatattaaat 60
ggaaaccggg aaatagccag attcctctcc aacctgtcct tggctggcat cggtttcccc 120
tccaccatag tctccaagat gattgtggac atccagtctc acagcagagt catctcctat 180
gcgggctgcc tgactcaggt atctcttttt gccgtttttg gatgcatgga agacatgctt 240
ctgagtgtga tggcttatga ccggtttgtg gacatctgtc accctctgga ttatccagtc 300
atcatgaacc catgtttctg tggttccta gttttgtgtt ctttttttct cagtctttta 360
gactcccagc tgcacaattg gattgcctta caaattacct gcttcaagga tgtggaaatt 420
cccaatttct tctgtgacct ttctcaacac cccacccttg cctgttgtga caccttcacc 480
aatgacatag tcatgtatct ccttgctgcc atatttggtt ttcttcccat ttcggggacc 540
ttttcatctt actataaaat tgtttcctcc attctgaggg ttcatcatc aagtgggaag 600
tataaagcct tctccacctg tggtctcac ctgtcagttg tttgcttatt ttatggaaca 660
ggctttggag gggacctcag ttcagacatg tctcttattc ccagaaaagg tgcagtggcc 720
tcagtgatgt acacggtggt tactcccatg ctgaaccctc tcatctacag cctaacaggg 780
aaattaaaag tgccctgcgg cagctgcact gcagaatagt ctaatctcat tttcttatta 840
tctgttccat tcttccgta gtgtgagtta gaaaaggcag caag 884

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&lt;210&gt; 261

&lt;211&gt; 959

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g110 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 261

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tacacagact cgcagaatct cacagggtgtc ttagaatttc tcttctctggg actctcagag 60
gatecagaac tgcagcccgt cctcggttggg ctgttctgtt ccatgtacct gatcacggtg 120
ctggggaacc tgctcatcat cctggccgtc agctgtgact cccacctcca caccctcatg 180
tacttcttcc tctccaactt gtccctgggt gacatcggac tcacctctgc caccatccct 240
aagatgattg ttgatatgca atctcacagc agaatcatct cctatgaggg ctgcctgatg 300
cagatgtctt tatctatctt gtgtgtatga atgacatggt cctgactgtg atggcctatg 360
accagtttgt ggccatttgt caccctctac gctaccaggt catcatgaat ccccatctct 420
gtgtcttctt agttttggtg tcttttattc ttagcctgtt gaactcccag ctgcacaatc 480
agattgtgtt acaattcacc tgcttcaaga atgtggaaat ctttaatttt ttctgtgagc 540
catctcaact tctcaacctt gcctgttctg acagtgtcat caataacata ttcatgtatt 600
tagatagtgt tatatttggg tttcttccca tctcagggat ccttttgtct tactataaaa 660
ttgtctcctc cattctaaga attccatcat cagatgggaa gtataaagcc ttctccacat 720
gtggctctca cctggcagtt gtttgcttat tttatggaa aggacttggg gcctacctca 780
gttcagctgc gtcctcttcc cccaggaagg gtgcgggtcac ctcagtgatg tacactgtgg 840
tcatccctat gctgaacccc ttcacttaca gcctgagaaa cagggaacatt aaaagtgcc 900
tgtggaggct gcacagcaga acagtctaata ctcattatct gttccatcct ttctgtagt 959

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&lt;210&gt; 262

&lt;211&gt; 955

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g111 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 262

cacacagagc	cacagaatct	cacaggtgtc	tcagaattcc	tcctcctggg	actctcagag	60
gatccagaac	tgcagccact	ccttgctggg	ctgttcctat	ccatgtgcct	ggtcacgatg	120
ctggggaacc	tgtcatcat	cctggccgtc	agccctgact	cccacctcca	catccccatg	180
tactttcttc	tctccaacct	gtccttgcc	gacattgggt	tcaccttggc	cacgggtcccc	240
aagatgattg	tagacatgca	atcacatagc	agagtcattc	cccatgcagg	ctgtctgaca	300
cagatacctt	tctttgtcct	ttttgtatgt	atagatgaca	tgctcctgac	tgtgatggcc	360
tatgactgat	ttgtggccat	ctgtcacccc	ctgcactacc	cagtcattcat	gaatcctcac	420
ctctgtgtct	tcttagtggt	gatgtctttt	tccttagcct	gttggattcc	tagctgcaca	480
actggattgt	tacaattcac	ctgcttcaag	aatgtggaaa	tctctaattt	tttctgtgac	540
tgatctcaac	ttctcaacct	tgccgtgtct	gactgtcatc	agtaacatat	tcatacattt	600
agatagtact	atatttggtt	ttcttcccat	ttcagggatc	cttttgtcct	actataaaat	660
tgtgccctcc	attctaagaa	ttccattgtc	agatgggaag	tataaagcct	tctccacctg	720
tggtctctac	ctggcaattg	tttgcttatt	ttatggaaca	ggcattggca	tgtacctgac	780
ttcagctgtg	tcaccagccc	ccaggaatgg	tgtggtggca	tcagtgttgt	acgctatggg	840
cacccccatg	ctgaacctcc	tcattctgag	cctgagaaac	aggggcattc	aaagtgcctt	900
gtggaggctg	tgcaggagga	aagtctaate	tcattgatctg	tttcatcctt	tttct	955

&lt;210&gt; 263

&lt;211&gt; 1049

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g112 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 263

atgtcccaac	tgggaaggga	caacataaac	tgggtgagtg	agttcatcct	aatgggtctc	60
ttcagtgaac	ggcagacca	ggctggactc	tttatcttat	ttggggctgc	ctacctgctg	120
accctgctgg	gcaatgggct	catcctgtct	ctgatctggc	tggacgtgag	actccacctg	180
cccatgtatt	tcttctctctg	caacctctca	cttgtgaaca	tctgctacac	ctccagcagg	240
gtccctcaga	tgctggtgca	ctgcaccagc	aaagaaagac	catctccttt	gcccgatgtg	300
ggaccagct	ctttttctcc	ctggccctcg	gggggaccga	gtttttgttg	ctggccgcaa	360
tggcctatga	ccgtacgtg	gctgtttgct	acccctgtg	ttacatagca	gtgatgagcc	420
caaggctctg	catggcactg	gcagctgtct	cttggctagt	gggcctggct	aattctgcta	480
tggagacggc	actgaccatg	cacctgcccc	cctgtgggca	caacgtgctg	aaccatgtgg	540
cctgtgagac	actggcactg	gtcaggctcg	cctgcgtgga	catcaccttc	aatcagggtg	600
tcattagtgg	ctccagtgtg	gtggtgctgc	tgggtgcctg	ctgcctggtc	tcgctgtcct	660
acacctcat	tgtagtgtcc	gtcctgcaga	tccactccac	ccaggggcac	cgcaaggcct	720
ttgggacctg	tgccctccac	ctcactgtgg	tctccatatc	ctatgggatg	gccctcttta	780
cctacatgca	gcctcgctcc	atggcctcag	ctgagcagga	aaaggtgatg	gtactctctt	840
atgctgtggt	gacccccatg	ttgaatcctt	tcattctacag	tctgcggaac	aaggatgtga	900
aggcagctct	gagtcgagct	ctgatgagga	gctctgaatt	aaaacattag	agagtgggtt	960
gagtaacaag	aaggcctcac	tctgaaaaca	gtgggcattg	gactgtgctc	tccagtataa	1020
cgtgtgtacg	catgtgtgtg	tatgtgtgtg				1049

&lt;210&gt; 264

&lt;211&gt; 955

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g113 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 264

atggacagtc	ccagcaatgc	caccgtgccc	tgtggctttc	tccttcaagg	cttctccgaa	60
ttcccgacac	tgagaccgtg	gctcttcctt	ttgctgctgg	gggtgcacct	ggccacctg	120

ggcggaacc	tgtctatcct	ggtggccgtg	gcctcgatgc	caagccggca	gcccattgctg	180
ctcttctgt	gccagctgtc	agccatcgag	ctgtgctaca	cgctgggtgt	ggtgccccgc	240
tccctggtcg	acctgagcac	gccggggcca	ccgcaggggc	agccctatct	ccttcttgag	300
ctgcgccttt	cagatgcaga	tgtttgtggc	tctgggcggg	gccgagtgt	tctgtgtggc	360
cgccatggct	aatgaccgct	acgtggccat	ctgccaccgc	ttgcgctacg	cgccgtgggtg	420
acccccgggc	tgtgcgcgcg	actggctctg	gctgctgcct	caggggactg	gcgggtgtcgt	480
ggggctcacg	gtgccatctt	ccacctgcct	ttctgcgggt	cccgcctgct	gctgcacttc	540
ttctgcgaca	tcacggcgct	gctgcacctg	gcctgcacgc	ggactacgcc	gacgagctgc	600
ctctgtggtg	cgctgctgtg	gtgctgctgc	tgtgcccc	ggtgtctcat	ctggcctctc	660
atggcgccat	cgccgcccgc	ctggcgccct	gcgctgcccc	aaaggccggg	gcaaggccgc	720
ctccacctgc	gccttgccac	tggcagtcac	cttctgtcac	tacggctgcg	ccaccttcat	780
gtacgtgcgg	cccagggcca	gctactcccc	gcgcctggac	cgcaccttgg	cgctgggtcta	840
caccaacgtc	acgcccgtgc	tgtgcccact	catctacagc	ctgcgcaacc	gcgagatcac	900
cggcgccctg	agcagggtgc	tggggcgccg	gcggccaggc	caagctccag	gcggg	955

&lt;210&gt; 265

&lt;211&gt; 945

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g114 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 265

atgggagact	ggaataacag	tgatgctgtg	gagcccatat	ttatcctgag	gggttttctt	60
ggactggagt	atgttcattc	ttggctctcc	atcctcttct	gtcttgcata	tttggttagca	120
tttatgggta	atgttaccat	cctgtctgtc	atttgatag	aatcctctct	ccatcagccc	180
atgtattact	ttatttccat	cttagcagtg	aatgacctgg	ggatgtccct	gtctacactt	240
cccaccatgc	ttgctgtgtt	atggttggat	gtccagaga	tccaggcaag	tgcttgctat	300
gctcagctgt	tcttcaccca	cacattcaca	ttcctggagt	cctcagtgtt	gctggccatg	360
gcctttgacc	gttttggttg	tatctgccat	ccactgcact	acccaccat	cctcaccaac	420
agtgtaatg	gcaaaattgg	tttgccctgt	ttgctacgaa	gcttgggagt	tgtacttccc	480
acacctttgc	tactgagaca	ctatcactac	tgccatggca	atgccctctc	tcacgccttc	540
tgtttgacc	aggatgttct	aagattatcc	tgtacagatg	ccaggaccaa	cagtatttat	600
gggctttgtg	tagtcattgc	cacactaggt	gtggattcaa	tcttcatact	tctttcttat	660
gttctgattc	ttaatactgt	gctggatatt	gcattctcgtg	aagagcagct	aaaggcactc	720
aacacatgtg	tatcccatat	ctgtgtgggtg	cttatcttct	ttgtgccagt	tattgggggtg	780
tcaatgggtc	atcgcttttg	gaagcatctg	tctcccatag	tccacatcct	catggcagac	840
atctaccttc	ttcttcccc	agtccttaac	cctattgtct	atagtgtcag	aacaaagcag	900
attcgtctag	gaattctcca	caagtttgtc	ctaaggagga	ggttt		945

&lt;210&gt; 266

&lt;211&gt; 869

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g115 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 266

tttcatggct	ggatttccat	gcccttttgc	tgtatttact	tgatgcctct	gctgagcaat	60
gctacaattc	tactgacaat	ctgggtctgat	cgtactcttc	gggacctat	gttctacttt	120
ctagccatct	tatcagccat	agacctagcc	ctctcaacat	cctcagtgc	tcgtatgttg	180
ggtatcttct	ggtttgatgc	acataaaatt	ggctttggag	cctgggttagc	ccagatgttt	240
ctgatacaca	ctttcacagg	aatggagtc	actgtgctgc	tggcaatggc	ctttgaccgc	300
tatgtggcca	tctgtacatc	actccactat	acctctactc	tgacaccccg	agtattggca	360
ggcattgggtg	tgagcattat	aatgcgcccc	gtcctgctca	tgttgcccc	tctctacctc	420
acccatcgtc	tgcccttctg	tgaggctcgg	attattgccc	actcctactg	tgagcacatg	480
ggtattgcta	agttggcctg	tgctagcatt	cacatcaatg	ctatttatgg	gctttttgtg	540
gcttcttatt	ttggatgtcg	cacttggttg	aatctcctat	acctacattc	tccgagctgt	600
tttccacctc	ccatctcaag	acgtctgtca	caaagcactg	agaacgtgtg	gctcacatgt	660

tgggggtcatg	tgtgttttct	atacaccctc	cctctttctc	ttcctcacct	accgatttcg	720
caaaaaaaaaat	tccccgttat	gtccacattc	ttgttgccaa	cctctatgtg	gtcattccac	780
ctgccctcaa	tcctattatc	tatggtgtga	gaaccaaaca	gattcatgag	catgtggtcc	840
atactttcac	ctcaaagtaa	ggtctctta				869

&lt;210&gt; 267

&lt;211&gt; 520

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g116 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 267

acatgctggg	ttttgatggg	gaacgtggg	aatgcctaca	cctgaggact	atcaggagcc	60
actttcaaca	ccatctgcac	atgtgcccgc	ttctttctgt	atgacaatta	gatcaaattc	120
tgccacatcc	tgcccctgct	gaagctcatt	tgaaataact	caggaaacag	caagataatt	180
attgtgatct	ttgacagctt	ttatgattat	agctggcact	agggtcaccc	tgatctctta	240
cctgctaata	atcagggctt	tgaggatgaa	atcatcgagt	ggcaaagcca	ataattttat	300
ccatccactt	gtgcctccca	cctaactgct	atgaccttcc	tttgggatcc	ccatcttcag	360
acatgtgaag	tacctcagat	aaatcactga	cagaagacaa	gttggcatca	tgacttgcac	420
catctttatt	cctatgctag	aacttttgat	caaagtcta	aagaaggata	tacaagttgc	480
cttcaaaaag	gccataggta	acttctgggt	ttttgagagg			520

&lt;210&gt; 268

&lt;211&gt; 952

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g117 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;221&gt; misc\_feature

&lt;222&gt; (1) ... (952)

&lt;223&gt; n = A,T,C or G

&lt;400&gt; 268

attagcaca	tgtctgtctt	caaaagttct	gcataaaacc	ctcgttctct	ccaaacgggc	60
ctctcaggcc	ttgaaagcag	atatgacttg	atttccctgc	ccatcttctt	ggtttatgcc	120
acctcaattg	ccgggaacat	tagcatcctc	ttcattatca	gaactgagtc	ttccctccac	180
caaccgatgt	attactttct	gtcaatgctg	gcattcactg	acctgggcct	atctaact	240
accttaccta	ccatgttcag	tgtcttcttg	ttccatgccc	gggagatctc	cttcaatgct	300
tgtctgggtc	aaatgtactt	cattcatggt	ttctcgatta	ttgagtcagc	tgtactcctg	360
gctatggcct	ttgactgctt	tatagcaatc	tgagaacctt	tgcgctatgc	agccatccta	420
accaatgatg	taatcattgg	gattgggttg	gcaattgctg	gaagggcctt	ggctctggtc	480
tttccagctt	ctttcctctt	gaagaggctt	caatatcatg	atgtcaatat	tctgtcctac	540
ctcttctgcc	tgcaccagga	cctcataaag	acgactgtat	ccaactgtcg	agtcagcagc	600
atctatggcc	tcattggtgg	catctgttcc	atgggacttg	attcagtgtc	tctcctctc	660
tcctatgtcc	tcattcctgg	cacagcgttg	agtatagcct	ccaaggcaga	gagagtgaga	720
gccctcaata	cttgcactct	ccacatctgt	gctgtactca	ccttctatac	accaatgatt	780
gggctatcta	tgatccatcg	ctatggacag	aatgtctctc	aattgtccat	gtgctgatgg	840
ccaatgtcta	cttgntgggt	ccacctctca	tgaacccctg	gttctacagt	gtagaccag	900
ncagattcgt	gacagaatct	ttcaaataaa	attcagaaac	atgaagtgtg	ga	952

&lt;210&gt; 269

&lt;211&gt; 944

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g118 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

## &lt;400&gt; 269

atggaagagg	aaaatgcaac	attactgaca	gaatttggtc	tcacaggatt	tttatgtcaa	60
caaggatttt	tatgggaaat	acccctgttc	ctggcattct	tggtaataga	tctcatcacc	120
atcatgggga	atcttgggtc	gatttttctc	atctggaaag	accctcacct	tcatatttca	180
atgtacttat	tccttgggag	tttagctttt	gtggatactt	ggttatcatc	cacagtgact	240
ccgaagatgc	tgatcaactt	cttagctaag	agtaagatga	tatctctctc	tgaatgcatg	300
gtacaatttt	ttttcccttg	caatcagtg	aaccacagaa	tgttttatct	cggcatcaat	360
ggcatatgat	cgctatgcag	acatatgcaa	acctttactt	tatccagtca	ttatgaccaa	420
tgaactatgc	atctggctat	ttgtcttgct	atttctaggt	ggcctttttc	atgctttaat	480
ccatgaaggt	tttttattca	gactaacctt	ctgtaactcc	aacatgatac	aacattttta	540
ctgtgacatt	atcccattgt	taaagatttc	atgtactgat	tcttgtatta	attttcta	600
gttttttatt	ttctcagggt	caattcaagt	tttaaccatt	gggattggtt	ttgtatctta	660
tatgtttgtt	ctctttacaa	tcttaaaaaa	gaagtctaac	aaaggcataa	gggaagcctt	720
ttccacctgt	ggagcccatt	acatacctct	ctctttatgt	tatggcctcc	ttctcttcat	780
gtatgtgggc	cctgcagctc	cacaagcaga	taatcaagat	atgatggagt	atctatttta	840
ccctatcatt	gtgcgtttgt	taaaccatat	tactacagcc	tgagaaataa	gcaataatag	900
gttcactcac	aaaaatgtta	aaataaaata	tttgcattgc	atac		944

&lt;210&gt; 270

&lt;211&gt; 939

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g119 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

## &lt;400&gt; 270

atgtccatta	tcaacacatc	atatgttgaa	atcaccacct	tcttcttggg	tgggatgcc	60
gggctagaat	atgcacacat	ctggatctct	atccccatct	gcagcatgta	tcttattgct	120
attctaggaa	atggcaccat	tctttttatc	atcaagacag	agccctcctt	gcattggccc	180
atgtactatt	ttctttccat	gttggctatg	tcagacttgg	gtttgtcttt	atcatctctg	240
cccactgtgt	taagcatctt	cctgttcaat	gccccgaaa	cttcttctag	tgccctgctt	300
gcccaggaat	tcttcattca	tggattctca	gtactggagt	cctcagtcct	cctgatcatg	360
tcatttgata	gattccctagc	catccacaat	cctctgagat	acacctcaat	cctgacaact	420
gtcagagttg	cccaaattag	gatagtattc	tcctttaaga	gcattgtcct	ggttcttccc	480
ttccctttca	ctttaagaag	cttgagatat	tgcaagaaaa	accaattatc	ccatttcctac	540
tgtctccacc	aggatgtcat	gaagtggcc	tgttctgaca	acagaattga	tgttatctat	600
ggcttttttg	gagcactctg	ccttatggta	gactttatc	tcattgctgt	gtcttacacc	660
ctgatccctca	agactgtacc	gggaattgca	tccaaaaagg	aggagcttaa	ggctctcaat	720
acttgtgttt	cacacatctg	tgcagtgate	atcttctacc	tgcccatcat	caacctggcc	780
gttggtccacc	gctttgccc	gcattgtctc	cccctcatta	atgttctcat	ggcaaatgtt	840
ctcctacttg	tacctccgct	gatgaaacca	attgtttatt	gtgtaaaaa	taaacagatt	900
agagtgaag	ttgtagcaaa	atttgtgtcaa	tgggaagatt			939

&lt;210&gt; 271

&lt;211&gt; 940

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g120 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

## &lt;400&gt; 271

atggaagaga	aaaatgcaac	attgctgaca	gagtttggtc	tcacattatt	tttatatcaa	60
cctcactgga	aaatacccc	gttcctggca	ttcttggtaa	tatatctcat	caccatcttt	120
gggaatcttg	gtctgattgc	tgctgatatg	aaagaccctc	accttcatat	cccaatatac	180
ttattccttg	agaatttagc	ttttgtggat	gatttggtat	catccacatg	actctgaaga	240
tgctgatcaa	cttcttcaat	aagagtaagt	tgtttctctc	ctgaatgctg	gatacatttt	300
ttttcctttg	caattgggtg	aaccacagaa	tggtttatct	tggcaacaat	ggcatatgat	360
cgctatgtag	ccatatgcaa	acctttactt	tatccagtca	ttatgaccaa	tggactgtgc	420

atctggctat	taatcttgtc	atttctaggt	ggccttcttc	atgctttaat	tcatgaaggt	480
tttttataga	ttacacctct	gtaattccaa	cacaatacat	cacttttaat	gtgacattat	540
cccatgttta	aaaattttct	gtactgattc	ttctattaac	tttccaatgg	tttttatttt	600
ctcatgttca	attcaagttt	tcaccattgg	gactgttctt	gtatcttata	catttgtcct	660
ctctacaatc	ttgaaaaaga	agtctgtcaa	aggcataaga	aaagacttct	ccacctgtgg	720
agctcatatc	ttacctgtat	ctttatacta	tggggccctc	gccttcatgt	atgtgggctc	780
tgcaccccaa	cgggctgatg	accaagatat	gatggagtct	ctattttaca	ctgtcatagt	840
tcctttatta	aatcccatga	tctacagcct	gagaaataag	caagtaatag	attcattcac	900
aaaaatgttc	aaaggaaata	atgttttagat	ctcttactca			940

&lt;210&gt; 272

&lt;211&gt; 512

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g121 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 272

tgctgagtcc	aagtttctctg	agtagcagaa	aagtattgat	aaatttttatt	tgttgcaactt	60
tttaacaaaa	caaaaagcat	ctgccaacca	cagaacattg	caacacctag	gccctgggct	120
ttccccccagc	attcattcac	tagcacctca	tgttttgggg	gcacaagcac	agggctttct	180
taggctgtaa	aatcacctat	atcatctgtc	tgtccactgc	ttcaactcct	tctgcagtat	240
cctgcaaca	atattacatg	cttatgaaat	gctgcagaca	gggaattcct	gtccttctag	300
gacccctctc	tggctgtggg	cagctttacc	ataagttctt	gtcttcttat	gctgaaattg	360
atttcatttt	catcttcacg	tattattgct	tctttgctct	ctcgggtgcc	aactgagtct	420
catcgctctc	ccttctaata	ctccttctgt	catctatttt	gtcttttctt	cttcagactg	480
aaaatccctg	gtagtacctg	tagtttctct	cc			512

&lt;210&gt; 273

&lt;211&gt; 924

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g122 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 273

atgaatacca	ctctatttca	tccttactct	ttccttcttc	tgggaattcc	tgggctggaa	60
agtatgcac	tctgggttgg	ttttcctttc	tttgcgtgtg	tcctgacagc	tgctccttggg	120
aatatcacca	tcctttttgt	gattcagact	gacagtagtc	tccatcatcc	catgttctac	180
ttcctggcca	ttctgtcatc	tattgaccgg	ggcctgtcta	catccaccat	ccctaaaatg	240
cttggcacct	tctgggtttac	cctgagagaa	atctcctttg	aaggatgcct	taccagatg	300
ttcttcatcc	acctgtgcac	tggcatggaa	tcagctgtgc	ttgtggccat	ggcctatgat	360
tgctatgtgg	ccatctgtga	ccctctttgc	tacacgttgg	tgctgacaaa	caagggtggg	420
tcagttatgg	cactggccat	ctttctgaga	cccttagtct	ttgtcatacc	ctttgttcta	480
tttatacctaa	ggcttccatt	ttgtggacac	caaattattc	ctcatactta	tggtgagcac	540
atgggcattg	ccgcctgtgc	ttgtgccagc	atcagggtta	acatcatcta	tggcttatgt	600
gccatctcta	tcctgggtctt	tgacatcata	gcaattgtca	tttcttatgt	acagatcctt	660
tgtgctgtat	ttctactctc	ttcacatgat	gcacgactca	aggcattcag	cacctgtggc	720
tctcatgtgt	gtgtcatggt	gactttctat	atgcctgcac	ttttctcatt	catgacccat	780
agggttgggc	ggaatatacc	tcactttatc	cacattcttc	tggctaattt	ctatgtagtc	840
attccacctg	ctctcaactc	tgaatttat	ggtgtcagaa	ccaaacagat	tagagcacaa	900
gtgctgaaaa	tgtttttcaa	taaa				924

&lt;210&gt; 274

&lt;211&gt; 927

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g123 nucleotide)

&lt;220&gt;

## &lt;223&gt; Synthetic construct

&lt;400&gt; 274

atggaagagg	aaaatgcaac	attgctgaca	gagtttggtc	tcacaggatt	tttacaatcaa	60
cctgactgta	aaataccgct	cttcctggca	ttcttggtaa	tatatctcat	caccatcatg	120
gggaatcttg	gtctaattgt	tctcatctgg	aaagaccctc	accttcatat	cccaatgtac	180
ttattccttg	ggagtttagc	ctttgtggat	gcttcgttat	catccacagt	gactccgaag	240
atgctgatca	acttccttagc	taagagtaag	atgatatctc	tctctgaatg	catgggtacaa	300
tttttttccc	ttgtaaccac	tgtaaccaca	gaatgttttc	tcttggaac	aatggcatat	360
gategctatg	tagccatttg	caaagcttta	ctttatccag	tcattatgac	caatgaacta	420
tgcattcagc	tattagtctt	gtcatttata	ggtaggccttc	ttcatgcttt	aatccatgaa	480
gctttttcat	tcagattaac	cttctgtaat	tccaacataa	tacaacactt	ttactgtgac	540
attatcccat	tgtaaagat	ttcctgtact	gattcctcta	ttactttct	aatgggtttt	600
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tgtggggctc	atctcttata	tgtatcttta	tactatggcc	ccctcacctt	caaatatctg	780
ggctctgcac	ctccgcaagc	agatgaccaa	gatagatgg	agtctctatt	ttacactgtc	840
atagttcctt	tattaaatcc	catgatctac	agcctgagaa	acaagcaagt	aatagcttca	900
ttcacaaaaa	tgttcaaaag	caatggt				927

&lt;210&gt; 275

&lt;211&gt; 924

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g124 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 275

atggcgaata	gaaacaacgt	gacagagttt	attctatttg	ggcttacaga	gaatccaaaa	60
atgcagaaaa	tcataattgt	tgtgttttgt	catctacatc	accaccatga	taggaaatgt	120
gctcattgtg	gtcaccatca	ctgccagccc	atcattgagg	tccccatgt	aatttttctt	180
ggcctatctg	tcctttattg	atgcctgcta	ttcctctgtc	aatgtctcta	agctgatcac	240
agattcactc	tatgaaaaca	agactatctt	actcaatgga	tgtatgactc	aagtctttgg	300
agaacatttt	ttcagagggt	ttgagggtcat	cctacttact	gtaatggcct	atgactgcta	360
tgtgggtcate	tgcaagccct	tgcgctatac	caccatcatg	aagcagcatg	tttgtagcct	420
gctagtggga	gtgtcacggg	tgggaggctt	tcttcatgca	accatacaga	tcctcttcat	480
cttccaatta	cctttctgta	gttctaattg	catagatcac	tttactgtga	tctcaaccct	540
ttgctcaatc	ttgcctgcac	taatacccac	actctaggac	tcttcgttgc	tgccaacagt	600
gggttcatat	gcctgttaaa	ctttctcttg	ctcctgggtc	cctatgtggt	catactgtac	660
tccttaagga	cccacagctt	agaggcaagg	cacaaaggcc	tctccacctg	tgtctcccac	720
aacacagttg	tcattcttatt	ctttataccc	tgcataattg	tgtacatgag	acctccagct	780
actttaccca	ttgataaagc	agttgctgta	ttctacacta	tgataactcc	tatgtttaaac	840
cccttaattc	acaccttgag	gaatgctcag	atgaaaaatg	ccattaggaa	attgtgtagt	900
aggaaagcta	tttcaagtgt	caaa				924

&lt;210&gt; 276

&lt;211&gt; 963

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g125 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 276

atgttccttc	ccaatgacac	ccagtttcac	ccctcctcct	tcctgttgct	ggggatccca	60
ggactagaaa	cacttcacat	ctggatcggc	tttcccttct	gtgctgtgta	catgatcgca	120
ctcatagga	acttcactat	tctacttggt	atcaagaactg	acagcagcct	acaccagccc	180
atgttctact	tcctggccat	gttggccacc	actgatgtgg	gtctctcaac	agctaccatc	240
cctaagatgc	ttggaatctt	ctggatcaac	ctcagagga	tcactcttga	agcctgcctc	300
accagatgt	tttttatcca	caacttcaca	cttatggagt	cagcagtcct	tgtggcaatg	360

gcttatgaca	gctatgtggc	catctgcaat	ccactccaat	atagcgccat	cctcaccaac	420
aagggttgtt	ctgtgattgg	tcttggtgtg	tttgtgaggg	ctttaatttt	cgatattccc	480
tctatacttc	ttatatgtcg	gttgcccttc	tgtgggaatc	atgtaattcc	ccacacctac	540
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catattcttt	gtgctgtttt	ccgtcttcc	actcatgagc	cccgaactca	gtccctcagc	720
acatgtgggt	cacatgtgtg	tgtaatcctt	gccttctata	caccagccct	cttttccctt	780
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tataaatgtg	taaagaaaat	attattgcag	gaacaaggaa	tggaaaagga	agagtaccta	960
ata						963

&lt;210&gt; 277

&lt;211&gt; 894

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g126 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 277

atgagaaatc	acacaatggt	gactgaattc	atccttctcg	gaatccctga	gacagagggc	60
ctagagacag	cccttttatt	cctgttctcc	tcattttatt	tatgcaccct	cttgggaaac	120
gtgcttatcc	ttacagctat	catctcctcc	actcgacttc	acactcctat	gtattttttc	180
ttgggaaacc	tctccatctt	tgacctgggt	ttctcttcaa	cgactgttcc	caagatgttg	240
ttctaccctt	cggggaacag	ccatgctatc	tcgtatgcag	gctgcgtgtc	ccagcttttc	300
ttctaccatt	tcctaggtcg	tactgagtgt	ttcctctaca	cagtgatggc	ctgtgaccgc	360
tttggttgcca	tatgttttcc	tttgagatac	acggtcacat	tgaaccacag	gggtgtgcttt	420
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gcagtgttac	ctctagcctg	taaggacaca	tccttagccc	agagggtagg	ttttacaaat	600
gttgggtctt	tgtctctcat	ttgctttttt	ctcatccttg	tttctatac	ttgcattggg	660
atttccatat	caaaaatccg	ctcagcagag	ggcaggcagc	gggccttctc	cacctgcagc	720
gctcacctca	ctgcaatcct	ttgtgcttat	gggccagtca	tcgttatcta	tctacaaccc	780
aatcccagtg	ccttgcttgg	ttccataatt	cagatattga	ataatctggg	aaccccaatg	840
ttgaatccac	taatctatag	ccttaggaat	aaggatgtaa	aatcagatca	gccc	894

&lt;210&gt; 278

&lt;211&gt; 972

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g127 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 278

atggaggagg	aaaatacaac	attgctgaca	gagtttggtc	tcacaggatt	tttatatcaa	60
ccacagtggg	aaataccctt	gttcttgcca	ttcttggtaa	tatagctcat	caccatcatg	120
gggaatcttg	gtctaattgt	tctcatctgg	aaagaccctc	accttcatat	cccaatgtat	180
ttattccgtg	ggagtttggc	ctttgtggat	gcttggttat	catccacagt	gactccaaag	240
atgctgatca	acttcttagc	taagagtaag	atgatatctc	tctctgaatg	catggtacaa	300
tttttttctt	ttgtaatcag	tgttaaccaca	gaatgtttta	tctcggcatc	aatggcatat	360
gatcgctatg	tagccatttg	caaagcttta	ctttatccag	tcattatgac	caacggacta	420
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atttttttat	tcagattaac	cttctgtaat	tccaacataa	tacaacactt	ttactgtgac	540
attatcccat	tgttaaagat	ttctgtact	gattctttta	ttactttctt	aatgggtttt	600
attttcgcag	attcaattca	agtttttacc	attggaacta	ttcttatatc	ttatacactt	660
gtcctcctta	taatcttaaa	aaataagtct	gtcaaaggga	tacaaaaagc	tgtctccacc	720
tgtggagctc	atctcttata	tgtatcttta	tactatgggc	cccttgtctt	catgtatgtg	780
ggctctgcac	ccccgcaagc	agatgaccaa	gatatgatgg	agtctctatt	ttacactgtc	840
atcgttcctt	tattaaattc	catgatctac	agcctgagaa	acaagcaagt	aatagcttca	900

ttcacaaaaa tgttcaaaag aaatgttttag atctcataca atctctgttc tctgtttact 960  
 aaaattttcc ca 972

<210> 279

<211> 924

<212> DNA

<213> Unknown (H38g128 nucleotide)

<220>

<223> Synthetic construct

<400> 279

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gaataccggg	tgttcttatt	cagctgtttc	ctcttctctt	actctggggc	cctcacaggt	120
aatgtcctca	tcacettggc	catcacgttc	aaccttgggc	tccacgctcc	tatgtacttt	180
ttcttactca	acttggctac	tatggacatt	atctgcacct	cttccatcat	gccaagggc	240
ctggccagtc	tgggtgcgga	agagagctcc	atctcctacg	ggggctgcat	ggcccagctc	300
tatttctca	cgtgggctgc	atcctcagag	ctgctgctcc	tcacggctcat	ggcctatgac	360
cggtagcgag	ccatctgcca	cccgtgcat	tacagcagca	tgatgagcaa	ggtgttctgc	420
agcgggctgg	ccacagccgt	gtggctgctc	tgcgcctgca	acacggccat	ccacacgggg	480
ctgatgctgc	gcttggattt	ctgtggcccc	aatgtcatta	tccatttctt	ctgcgaggtc	540
cctcccctgc	tgcttctctc	ctgcagctcc	acctacgtca	acgggtgcat	gattgtcctg	600
gcggatgctt	tctacggcat	agtgaacttc	ctgatgacca	tcgcgtccta	tggcttcctc	660
gtctccagca	tctgaagggt	gaagactgcc	tgggggaggc	agaaagcctt	ctccacctgc	720
tcttcccacc	tcaccgtggg	gtgcatgtat	tacaccgctg	tcttctacgc	ctacataagc	780
ccggtctctg	gctacagcgc	aggggaagagc	aagttggctg	gcctgctgta	cactgtgctg	840
agtctaccc	tcaacccctt	catctatact	ttgagaaaca	aggaggtcaa	agcagccctc	900
aggaagcttt	tccctttctt	caga				924

<210> 280

<211> 958

<212> DNA

<213> Unknown (H38g129 nucleotide)

<220>

<223> Synthetic construct

<400> 280

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tcagagtggg	aaatacccct	gttcctggca	ttcttggtaa	tatatctcat	caccatcatg	120
gcaaattctt	gtctgattgc	tgtcatctgg	aaagactcac	accttcacat	tccaatgtac	180
ttattccttg	ggagtttagc	ctttgtggat	gcttggttat	catcctcagt	gacccttaag	240
atgctgatca	gcttttttagc	taagagtatg	attatttctg	tctctgaatg	caagatacaa	300
tttttttctt	ttggaatcag	tggaaccaca	gaatgttttc	tcttggcaac	aatggcatat	360
gatcgctatg	tagccatatg	caaaccctta	ctttatccag	tcattatgac	caatggactg	420
tgtatctggc	tattagtctt	gtcatttata	ggtggctttc	ttcatgcctt	aattcatgaa	480
ggtattttat	tcagattaac	cttctgtaat	tccaacataa	tacatcactt	ttactgtgac	540
attatcccct	tgttaaagat	ttcctgtact	gacccttcta	ttaatttttt	aatgcttttt	600
attttgtctg	gttcaataca	ggtatttact	attttgactg	ttcttgtctc	ttatacattt	660
gtcctcttta	caatcttaaa	aaaaaaagtc	tgccaaagac	ataaggaaag	ccttttccac	720
ctgtggagcc	catctcttat	ctgtttcttt	atactatggc	ccccttctct	tcattgtatg	780
gcaccctgca	tctccacaag	cagatgatca	agatatgggtg	gagtctctat	tttacactgt	840
cataattcct	ttcttaaatc	ccattatcta	cagcctgaga	aataagcaag	tcatagattc	900
actgacaaaa	acattaaaag	gaaatgttta	gatctcatat	tggaatgtat	tctctatt	958

<210> 281

<211> 933

<212> DNA

<213> Unknown (H38g130 nucleotide)

<220>

## &lt;223&gt; Synthetic construct

&lt;400&gt; 281

atggttgaag	aaaatcatatc	catgaaaaat	gagtttatcc	tcacaggatt	tacagatcac	60
cctgagctga	agactctgct	gtttgtggtg	ttctttgcca	tctatctgat	caccgtggtg	120
gggaatatta	gtttggtggc	actgatattt	acacaccgtc	ggcttcacac	accaatgtac	180
atctttcttg	gaaatctggc	tcttgtggat	tcttgtctgt	cctgtgctat	tacccccaaa	240
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ttttattttc	tttgcactgt	ggaaactgca	gactgctttc	ttctggcagc	agtggcctat	360
gaccgctatg	tgcccatctg	caaccactg	cagtaccaca	tcatgatgtc	caagaaactc	420
tgcattcaga	tgaccacag	cgccttcata	gctggaaatc	tgcattccat	gattcatgta	480
gggcttgat	ttagggttagt	tttctgtgga	ttgaatcaca	tcaaccactt	ttactgtgat	540
actcttccct	tgtatagact	ctcctgtgtt	gaccctttca	tcaatgaact	ggttctattc	600
atcttctcag	gttcagttca	agtctttacc	ataggtagt	tcttaatatc	ttatctctat	660
attcttctta	ctattttcag	aatgaaatcc	aaggaggga	gggccaaagc	cttttctact	720
tgtgcatccc	acttttcac	agtttcatta	ttctatggat	ctattttttt	cctatacatt	780
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gtagtccct	tactaaatcc	tttcatttat	agtctgagaa	acaaggaagt	aataagtgtc	900
ttaagaaaaa	ttctgctgaa	aataaaatct	caa			933

&lt;210&gt; 282

&lt;211&gt; 979

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g131 nucleotide)

&lt;220&gt;

## &lt;223&gt; Synthetic construct

&lt;400&gt; 282

tatacagacc	cacagaatct	aacagatgtc	tttatattcc	tcctcctaga	actctcagag	60
gatccagcac	tgcagctggt	cgtcactggg	ctgtgcctgt	gtgcctgggc	acgggtgctgt	120
ggaacctgtc	cagcatcctg	gccgtcagcc	ctgactccca	cctccacacc	cccatgcact	180
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tgtctctctc	tgccattttt	ggaggcatgg	aagagagaca	tgctcctgag	tgtgatggcc	360
tatgaccagt	ttgtagccat	ctgtcaccc	ctgtatcatt	cagccatcat	gaaccctgt	420
ttctgtggct	tcctgggttt	gttgtctttt	ttttctcagt	cttttagact	cccagctgca	480
aaactgatcg	ccttacaaat	cacctgtcca	aaggatgtgg	aaattcctaa	ttttttctgt	540
gacccttctc	aactccccca	tcttgcattg	tgtgacacct	tcaccaataa	cattatcatg	600
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gtggtcaccc	ccatgctgaa	tccttgcac	tacagcctga	gaaacaggga	tattaaaggt	900
gtcctgtggc	agcctgtcag	cgcacggca	gcacagtctc	atctcaatat	cttatctgtt	960
ccattccttt	tgcaggatg					979

&lt;210&gt; 283

&lt;211&gt; 987

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g132 nucleotide)

&lt;220&gt;

## &lt;223&gt; Synthetic construct

&lt;400&gt; 283

atggaaccac	agttcaccac	ccagggatca	atgtttgtcc	tgttagggta	gtcacagacc	60
caagagctcc	agagagtcac	gttcattctg	ttcctgttag	tctatgttac	caccattgtg	120
ggaaacctcc	ttatcatggt	cacagtgcac	tttgactgcc	ggctccacac	ccatgtattt	180
tctgtccga	aatctagctc	tcatagacgt	ctgctattcc	acagtcacct	ctccaaagat	240
gctgggtggac	ttctccatg	agaccaagac	gatctcctac	cagggtctga	tggcccagat	300

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cttcttcttc cacttttgg gaggtgggac tgtctttttt ctctcagtca tggcctatga 360
ccgctacata gccatctccc agccctccg gtatgtcacc atcatgaaca ctcaattgtg 420
tgtgggcctg gtagtagccg cctggcgtgg ggggctttgt ccactccatt gtccaactgg 480
ctgtgatacg tccacagcct ctatgtggcc ccaatatact agataacttc tactgtgatg 540
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ccaccacat catcgtgggtg tccatgatct tcattccatg tatctatata tatacctggc 780
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ttaggcaagt gcttagtaat ttgcaggag ttaaacttta agtaagttga ctttaaataga 960
caaattgctc tggattttta ttttccc 987

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&lt;210&gt; 284

&lt;211&gt; 387

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g133 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 284

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atgcaaggag aaaacttcac catttggagc atttttttct tggagggatt ttcccagtag 60
ccagggtag aagtggttct ctctgtcttc agccttgtaa tgtatctgac aacgctcttg 120
ggcaacagca ctcttatttt gatcactatc ctagattcac gccttaaaac ccccatgtac 180
ttattccttg gaaatctctc tttcatggat atttgttaca catctgcctc tgcttctact 240
ttgctgggtga acttgcgtgc atcccagaaa accattatct tttctgggtg tgctgtacag 300
atgtatctgt cccttgccat gggctccaca gagtgtgtgc tcctggccgt gatggcatat 360
gaccgttatg tggccatttg taaccgg 387

```

&lt;210&gt; 285

&lt;211&gt; 1005

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g134 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 285

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tctacagacc cacagaatct aacagatgtc tctatatctc tcctcctaga acctcagagg 60
atccagaacg gcagctgggc cttgctgggc tgttctctgc catgtgcctg gtcacgggtgc 120
tggggaacct gatcatcacc ctggacgtca gccctgactc ccacctcccc acccccatgt 180
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agatgtctct ctttgccatt tttggaggca tgggaagagag acacgtcct gagtgtgatg 360
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tgtttctgtg gctttctagt tttgttgtct ttttttttct tcagtccttt agacaccag 480
ctgcacaact tgattgcctt acaaatagacc tgcttcaagg atgtggacat tcctaatttc 540
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tacacgggtg tcacccccat gctgaacccc ttcattctaca gcctgagaaa cggggatatt 900
aaaagtgtcc tgcggcggcc gcaaggcagc aaggtctaata atcaatatct tcttatctgt 960
tccattcctt ttgtagggtg ggttaaaaaa ggcagcaagg tcaaa 1005

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&lt;210&gt; 286

&lt;211&gt; 958

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g135 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 286

atgaagaata	aaaggaatgt	gactgaattc	gttttaacag	gtcttacaca	gaaccctaaa	60
atggagaaaag	tcatgtttgc	agtatttttg	gttctttaca	tgataaact	ttcaggcaac	120
ctgctccttg	tggttacaat	taccaccagc	caggctctta	gtcccccat	gtacttcttc	180
ctgagccacc	tttctttgat	agacacagtt	tattcttctt	cttcagctcc	taagttgatt	240
gtcgattccc	ttcatgagaa	gaaaatcacc	tcctttaatg	gggtgatggc	tcaagcctat	300
gaagaacaca	tttttgggtg	tactgagatc	atcctgctga	cagtgatggc	ctgtgacaac	360
tatgtggcca	tctgcaaacc	tctgcaactac	acaaccatca	tgagccacag	cctgtgcatt	420
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acagtatggc	tgccttctcg	tggccccaat	gtcatagacc	acttcatgtg	tgacttgtgc	540
cctttgttaa	aacttgtttg	cctggacact	catacccttg	gtctctttgt	tgctgccaac	600
agtgggttca	tctgcttatt	aaacttcctt	ctctaggtgg	tatcctatgt	gatcatcttg	660
agatgtttaa	agaactatat	cttggagggg	aggggtaaag	ccctctccac	ctgtatttct	720
cacatcataa	tagttgtctt	attctttgtg	ccttgatat	ttgtgtatct	gcacccagtg	780
acaaactctg	cccattgata	aagctgctgc	tgtattttat	actatgggtg	tcccaatgtt	840
aaatcctttg	atctacacac	tcagaaatgc	tgaggtaaaa	agtgaataa	ggaagctttg	900
gagaaaaaaa	gttatttcag	ataatgacta	aataagacca	ttgagcactc	atcataga	958

&lt;210&gt; 287

&lt;211&gt; 937

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g136 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 287

atggagattg	gaaaccatac	cacagtgaca	gagtttatta	ttttgggggt	aactgaggat	60
cctacacttt	gtgacatctt	ctttgtgata	tttctaggaa	tctacattgt	caccttaata	120
ggcaatatca	gcataataaa	gaagctgttc	ccaacttcac	actcccatgt	acctgttctt	180
cagccacttg	gcttttgtgg	acatagggct	tgccacagta	gtcacaccta	taatgcttat	240
gggattccta	agacgtggaa	cagccctccc	tgctactagc	tgtgaagccc	agctctgttc	300
tgtagtcatg	tttgggacgt	ctgaatgctt	cctactggcg	accatggcct	atgategcta	360
tgtggccatc	tgctcacc	tggtgaactc	caccacttg	tccccataa	tctgcatact	420
cttagtgggg	gtttgctacc	tgggtggatg	tgtgaatgcc	tcaacattta	ctagttgttt	480
attgagtctg	tctttctgtg	gaccaaatac	gatagatcat	tttttctgtg	atttctctcc	540
tttgttgaaa	ctttcctgct	caaataatct	cattcctgaa	attatccctt	ccatctcttc	600
tggatctatc	attgtggtca	cagtatttgc	catagccatc	tcctacatct	acatcctcat	660
caccatcctg	aagatgcgct	ccgccgaggg	gcgccacaag	gccttctcca	cctgtacctc	720
ccacctcgct	gcggttactc	tctactatgg	aacgattacc	ttcatttatg	tgatgccccaa	780
atccagttac	tcaactagcc	agaacagatt	gatatcgctg	tcctacacag	tggtaatccc	840
catactgaac	ccctttatct	atagtctgag	gaacagagat	gtaaaggagg	cactaagaaa	900
ggcaactgtc	agaatatatt	cttaggatca	atttcta			937

&lt;210&gt; 288

&lt;211&gt; 971

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g137 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 288

cacacagagc	cacggaatct	cacaggtgtc	tgagaattcc	tcctcctggg	actctcagag	60
gatccatcac	tgcagccggg	cctcgctttg	ctgtccctgt	ccctgtccat	gtatctgggc	120
acgggtgaga	ggaacctgct	gagcatcccg	gctgtcagct	ctgactcccc	gctccacacc	180
cccacgact	tcttctctc	catcctgtgc	tgggctgaca	tcgggttcac	ctcggccacg	240

gtttccaaga	cgattgtgga	catgcagtc	catagcagag	tcattctctca	tgcgggctgc	300
ctgacacaga	tgtctttctt	ggtccttttt	gcatgtatag	aaggcatgct	cctgactgtg	360
atggcctatg	actgctttgt	aggcatctgt	cgccctctgc	actaccagct	catcgtgaat	420
cctcatctct	gtgtcttctt	tgttttggtg	tcctttttcc	ttagcctgtt	ggattcccag	480
ctgcacagtt	ggattgtgtt	acaattcacc	atcatcaaga	atgtggaaat	ctctaatttt	540
gtctgtgacc	cctctcaact	tctcaaactt	gcctgttctg	acagcgcat	caatagcatc	600
ttcatatatt	ttggtagtag	tatgtttggt	tttcttccca	tttcagggat	ccttttgtct	660
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taagctgtgg	tcaccccat	gctgaacctt	ttcatctaca	gcctgagaaa	cagggacata	900
caaagtgecc	tgcggaggct	gcgcagcaga	acagtcgaat	ctcatgatct	gttccatcct	960
ttttctggtg	t					971

&lt;210&gt; 289

&lt;211&gt; 954

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g138 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 289

atgattcagc	ctatggcgctc	acccagcaac	agctccactg	tcccagtcctc	tgaattcctc	60
ctcacctgct	tccccaaactt	ccagagttgg	cagcactggc	tctccctgcc	cctcagcctt	120
ctcttctctc	tggccatggg	agctaacacc	accctcctga	tcaccatcca	gctggaggcc	180
tctctgcacc	agcccttgta	ctacctgctc	agcctcctct	ccctgctgga	catcgtgctc	240
tgcctcaccg	tcattcccaaa	ggctctggcc	atcttctggt	atgatcttag	gtcgatcagc	300
ttccctgcct	gcttccctcca	gatgttcatc	atgaacagtt	tcctcccat	ggagtcctgc	360
acgtttatgg	tcattggccta	tgaccgttat	gtggccatct	gccaccact	gcggtaccca	420
tccatcatca	ctaatacaatt	tgtggccaaa	gctagtgtct	tcattgtggt	gcggaatgcg	480
cttcttactg	cacccattcc	tatcctcaact	tcctgctcc	attactgtgg	ggaaaatgtc	540
attgagaact	gcattctgtgc	caacttgtct	gtgtccaggc	tctcctgtga	taatttcacc	600
cttaacagaa	tctaccaatt	tgtggtggt	tggacctgac	tgggctcaga	tttattcctc	660
atcttccctc	cttacacctt	cattctaaga	gctgtgctta	gattcaaagc	agagggggcg	720
gcagtgaagg	ccctgagcac	atgtggctcc	cacttcatcc	tcattctttt	cttcagcacc	780
atactgctgg	ttgtggtggt	gacaaacgtg	gccagaaaga	aggtcccat	ggacatcctg	840
atcctgctga	acgtccttca	tcaccttatt	cctcctgcgt	tgaaccctat	tgtgtatggg	900
gttcggacca	aagagataaa	acaggggaatt	cagaagttac	tgcagagagg	gagg	954

&lt;210&gt; 290

&lt;211&gt; 713

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g139 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;221&gt; misc\_feature

&lt;222&gt; (1)...(713)

&lt;223&gt; n = A,T,C or G

&lt;400&gt; 290

cccaagggtcc	cggacttttt	tgtgtttggc	ctaagggcc	ttagttttcc	ggccggtttt	60
ctccaaaagt	acattaagaa	ttgtttccaa	gccaggagtt	ttggccattc	aaggtcaggg	120
ccataggatc	gttaaggaac	ccttctgcc	cccccttgaa	atatccctcc	attcatcacg	180
gatccctttg	gagtcaaggc	tgccaggttt	attttgcccc	gnaatgggtg	taatgactct	240
gcccatcccc	catcctttca	gcacaactcc	gttattgtgg	aagaaatgct	attgagaact	300
gcattctgtc	caatatgtct	gtttccagac	tctcctgcga	tgatgtcacc	atcaatcacc	360
tttaccatt	tgctggaggc	tggactctgc	taggatctga	cctcatcctt	atcttctct	420
cctacacctt	cattctgcga	gctgtgctga	gactcaaggc	agaggggtgc	gtggcaagg	480

ccctaagcac	atgtggctcc	cacttcacgc	tcatectctt	cttcagcacc	atccttctgg	540
tttttgcct	cacacatgtg	gctaagaaga	aagtctcccc	tgatgtgcca	gtcttgetca	600
atgttctcca	ccatgtcatt	cctgcagccc	ttaaccccat	catttacggg	gtgagaaccc	660
aagaaattaa	gcaggggaatg	cagaggttgt	tgaagaaagg	gtgctaacaa	gga	713

&lt;210&gt; 291

&lt;211&gt; 924

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g140 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 291

atgaattccc	tgaaggacgg	gaatcacacc	gctctgacgg	ggttcatcct	attgggctta	60
acagatgac	caatccttcg	agtcacctc	ttcatgatca	tcctatctgg	taatctcagc	120
ataattatc	ttatcagaat	ttcttctcag	ctccatcacc	ctatgtattt	ctttctgagc	180
cacttggcct	ttgctgacat	ggcctattca	tcttctgtca	cacccaacat	gcttgtaaac	240
ttcctgggtg	agagaaatac	agtctcctac	cttggatgtg	ccatccagct	tggttcagcg	300
gctttctttg	caacagtcga	atgcgtcctt	ctggctgcca	tgccctatga	ccgctttgtg	360
gcaatttgca	gtccactgct	ttattcaacc	aaaatgtcca	cacaagtcag	tgtccagcta	420
ctcttagtag	tttaccatagc	tggttttctc	attgctgtct	cctatactac	ttccttctat	480
tttttactct	tctgtggacc	aaatcaagtc	aatcattttt	tctgtgattt	cgctccctta	540
cttgaactct	cctgttctga	tatcagtgtc	tccacagtgt	ttctctcatt	ttcttctgga	600
tccatcattg	tggtcactgt	gtgtgtcata	gccgtctgct	acatctatat	cctcatcacc	660
atcctgaaga	tgcgctccac	tgaggggcac	cacaaggcct	tctccacctg	cacttccac	720
ctcactgtgg	ttaccctgtt	ctatgggacc	attaccttca	tttatgtgat	gcccaatttt	780
agctactcaa	ctgaccagaa	caaggtgggtg	tctgtgttgt	acacagtggg	gattcccatg	840
ttgaaccccc	tgatctacag	cctcaggaac	aaggagatta	agggggctct	gaagagagag	900
cttggttagaa	aaatactttc	tcac				924

&lt;210&gt; 292

&lt;211&gt; 1006

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g141 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 292

gatacagacc	cacagagtct	aacagatgtc	tctatatctc	tcctcctcga	actctcagag	60
gatccagaac	tgcaaccggg	cgctcgctgg	ctgttccctg	ccatgtgcct	cgctcatggg	120
ctggagaacc	tgctcatcat	cctggacgtc	agccctgact	cccacctccc	cacccccatg	180
tacttcttcc	tctccaaact	gtccttgcct	gacatcggtt	tcacctccac	cacggteccc	240
aagatgattg	tggaatcca	gtctcacagc	agagtcattc	atgcaggctg	cctgactgtg	300
atgtctctct	ttgccatttt	tggaaggcatg	gaagagagac	atgctcctga	gtgtgatggc	360
ctatgaccgg	tttgtagcca	tctgtcacc	tctatatcgc	tcagccatct	tgaacccgtg	420
tttctgtggc	ttcctagatt	tggtgtcttt	tttttttttc	cctcagtctt	ttagactccc	480
agctgcacaa	cttgattgcc	ttacaaatga	cctgcttcaa	ggatgtggaa	attcctaatt	540
tcttctggga	accttctcaa	ctcccccatc	ttgcatgttg	tgacaccttc	accaggaaca	600
tcagcatgta	tttccctgct	gccgtatttg	gttttctttc	catctcgggg	acccttttct	660
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cttctccacc	tgaggttccc	acctgtcagt	tgtttgtgta	ttttatggaa	caggcgttgg	780
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gtacacgggtg	gtcaccacca	tgctgaaccc	cttcactctac	agcctgagaa	acggggatat	900
taaaagtgtc	ctgcggcggc	cgcaaggcag	cacagtctca	tctcaatacc	ttcttatctg	960
ttccattcct	tttgtagggt	gggttaacaa	agacagcaag	gtcaaaa		1006

&lt;210&gt; 293

&lt;211&gt; 933

&lt;212&gt; DNA

<213> Unknown (H38g142 nucleotide)

<220>

<223> Synthetic construct

<400> 293

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actacagttt	gtgctatttt	atctctgtg	tttctaggaa	tttatgttgt	caccttaatg	120
ggtaatatca	gcataattgt	attgatcaga	agaagtcac	atcttcatac	acccatgtac	180
atcttcctct	gccatttggc	ctttgtagac	attgggtact	cctcatcagt	cacacctgtc	240
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ctctgttctg	tagtgacgtt	tggtacggcc	gagtgttcc	tgctggctgc	catggcctat	360
gatcgctatg	tggtccatctg	ctcaccctg	ctctactcta	cctgcatgtc	ccctggagtc	420
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atgcccaggt	ccagctactc	aactgaccag	aacaagggtg	tgtctgtgtt	ctacaccgtg	840
gtgattccca	tgttgaaccc	cctgatctac	agcctcagga	acaaggagat	taagggggct	900
ctgaagagag	agcttagaat	aaaaatattt	tct			933

<210> 294

<211> 942

<212> DNA

<213> Unknown (H38g143 nucleotide)

<220>

<223> Synthetic construct

<400> 294

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ccagggttag	aggaaagcca	gcactggatt	gcactgcccc	tgggcaccc	ttacctcctt	120
gcttttagtg	gcaatgttac	cattctcttc	atcatctgga	tggacccatc	cttgacacaa	180
tctatgtacc	tcttctgtc	catgctagct	gccatcgacc	tggttctggc	ctcctccact	240
gcacccaaag	cccttgacgt	gtccttggtt	catgcccacg	agattgggta	catcgtctgc	300
ctgatccaga	tgttcttcat	ccatgcattc	tcctccatgg	agtcaggggg	acttgtggcc	360
atggctctgg	atcgctatgt	agccatttgt	cacccttgc	accattccac	aatcctgcat	420
ccaggggtca	tagggcgcat	cggaatggtg	gtgctgggtg	ggggattact	actccttacc	480
cccttcccca	ttttgttggg	aacacttacc	ttctgccaag	ccaccatcat	aggccatgcc	540
tattgtgaac	atatggctgt	tgtgaaactt	gcctgctcag	aaaccacagt	caatcgagct	600
tatgggctga	ctatggcctt	gcttgtgatt	gggctggatg	ttctggccat	tgggtgttcc	660
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tttagcacat	gtggctctca	tatttgtgtc	atcctgggtc	tctatgtccc	tgggaatttcc	780
tccttctctc	ctcaccgctt	tggtcatcat	gtaccccatc	atgtccatgt	tcttctggcc	840
acacgggtatc	tcctcatgcc	acctgcgctc	aatcctcttg	tctatggagt	gaagactcag	900
cagatccgcc	agcgagtgtc	cagagtgttt	acacaaaagg	at		942

<210> 295

<211> 945

<212> DNA

<213> Unknown (H38g144 nucleotide)

<220>

<223> Synthetic construct

<400> 295

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cctgagctgc	agctccccct	ctttgtgggtg	ttccttgtca	tttatctcat	caccctgggtg	120
ggaaaccttg	gcatgatcct	gctgatcaga	gcagactcgc	ggctccacac	ccccatgtac	180

tacttctca	gtcacctggc	attcattgat	ctgtgttact	catcttctat	tgggcccaag	240
atgctgcaaa	atgtattggg	gaagaaaaaa	accatctcct	tttcaggctg	ttttgctcag	300
ctgtacttct	ccggtgcttt	tgccactaca	gaatgattcc	tcttgccac	aatgccctac	360
gacgctacg	tggccatctg	caacccctg	atttacacag	ctattatgac	gcagcgggtc	420
tgcagggagt	tagtgatagg	ggtctatacc	tatggcttcc	gaaactctgt	gatacacaga	480
gctctgacgt	ttcagctgtc	tttctgcaac	tccgacgtca	tccaccactt	ctactgtgct	540
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atcctctttt	ccattataaa	aatccagttc	tccgagggca	agtgcagagc	attttccacc	720
cgtgcctccc	acctcactgt	cgtcaccatc	ttttatggca	cactattttt	catgtacctg	780
cagcaaccaa	tcagggggaa	ttcatggaag	ccaaacaaag	tagtctctgt	gttttatagt	840
cttgtaattc	ccatgcttaa	ccctcttata	tatcgccctga	gaaacacaga	agtaaaggat	900
gccctgaaaa	aaatgctaga	gggcaaagag	ttatagttag	tgagt		945

&lt;210&gt; 296

&lt;211&gt; 605

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g145 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 296

atgacaacac	accgaaatga	cacctctctc	actgaagctt	cagacttcct	cttgaattgt	60
tttgtcagat	ccccagctg	gcagcactgg	ctgtccctgc	ccctcagcct	ccttttctc	120
ttggccgtag	ggccaacac	cacctcctg	atgaccatct	ggctggaggc	ctctctgcac	180
cagccccctgt	actacctgct	cagcctctc	tccaaactgg	acatcggtgt	ctgcctcact	240
gtcatcccca	aggtcctgac	catcttctgg	tttgacctca	ggcccatcag	cttccctgcc	300
tgcttctctc	agatgtacat	catgaattgt	ttcctagcca	tggagtcttg	cacattcatg	360
gtcatggcct	atgatcggtt	tgtagccatc	tgccaccac	tgagatatcc	atcaatcacc	420
actgatcact	ttgtagtcaa	ggctgccatg	tttattttga	ccagaaatgt	gcttatgact	480
ctggccatcc	ccatcctttc	agcacaactc	ttattgggaa	caatgttttt	aaaaccattc	540
ttggcaaattg	ttttgttcac	aatttctgct	gagatgcacc	ttaataacct	tacacatttc	600
tgaag						605

&lt;210&gt; 297

&lt;211&gt; 609

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g146 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 297

atgaatgaga	caaatcattc	ttgggtgaca	gaatttgtgt	tgctgggact	gtctagtcca	60
agggagctcc	aacctttctt	gtttcttata	ttttcactac	tttatctagc	aattctgttg	120
ggcaactttc	tcattcatcct	cactgtgacc	tcagattccc	gccttcacac	ccccatgtac	180
tttctgcttg	caaacctgtc	atttatagac	gtatgtgttg	cctcttctgc	taccctaaa	240
atgattgcag	actttctggt	tgagcacaag	actatttctt	ttgatgccca	cctggccag	300
attttctttg	ttcatctctt	cactggcagt	gaaatgggtgc	tcctagtttc	catggcctat	360
gaccgttatg	ttgctatatg	caaacctccc	cactacatga	caatcatgag	ctgctgtgta	420
tgtgttggtc	tcgtcctcat	ttcctgggtt	gtgggcttca	tccataccac	cagccagttg	480
gcattcacgt	taatctgcca	ttttgtgggc	ctaataaggt	agatagtttt	tttctgtgac	540
cttcctctag	cgctgaagtt	agcctgcata	gacacttatg	ttgtcagcct	actaatagtt	600
gcagatagt						609

&lt;210&gt; 298

&lt;211&gt; 912

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g147 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 298

atggcactta	gcaattccag	ctggaggcta	ccccagcctt	cttttttctt	ggtaggaatt	60
ccgggttag	aggaaagcca	gcactggatc	gcactgcccc	tgggcatcct	ttacctcctt	120
gctctagtgg	gcaatgttac	cattctcttc	atcatctgga	tggacccatc	cttgcaccaa	180
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gcacccaaag	cccttgagc	gtcctgggtt	cgtgccaag	agattgggta	cactgtctgc	300
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atggctctgg	atcgctatgt	agccatttgt	caccccttgc	accattccac	aatcctgcat	420
ccaggggtca	tagggcacat	cggaatgggt	gtgctgggtc	ggggattact	actcctcatc	480
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tatgccaca	ttctccagc	agtgtgaag	gtaccaggaa	atgaggcccc	acttaaggcc	720
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tccttctctca	ctcaccgctt	tggtcacatc	gtaccccatc	acgtccatgt	tcttctggcc	840
atactgtatc	gccttgtgcc	acctgcactc	aatcctcttg	tctatagggt	gaagaccag	900
aagatccacc	ag					912

&lt;210&gt; 299

&lt;211&gt; 330

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g148 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 299

agtcacacag	aaccacagaa	tctcacaggt	gtctcagaat	tccttctcct	gggactctca	60
gaggatccag	aactgcagcc	tgtcctcgct	tggctgtcct	tgtccattta	cctggtcaca	120
gtgctgggga	acctgtcat	catcctggct	gtcagctctg	actcccaact	ccacaccccc	180
atatacttct	tcctcttcaa	cctgtccttg	gctgacattg	gtttcacctc	ggccatgggt	240
cccaagatga	ttgtggacat	gcaatcgcat	agcagagtca	tctcttatgc	gggctgcctg	300
acatagatgt	ctttctttgt	cctttttttt				330

&lt;210&gt; 300

&lt;211&gt; 980

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g149 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 300

tttttttcca	ataattctgt	tctcttccca	catactttct	tcctggctgg	catcccagga	60
ttgactgcca	cccacatttg	gattttactt	cccttttgct	ttatgttttt	cctgtcattg	120
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ttcttttttc	ttgccatgct	ctcctttgtc	gacttggtcc	tctctctctc	cacactgcct	240
aagatgctgg	ccattttctg	gtttgggtgct	acagccatca	gctcgcatte	ctgtctttcc	300
cagatgttct	tcatccatgc	attctctgcc	atggagtacg	gggtgctagt	ggccatggcc	360
ctggaccgct	ctgtggccat	ctgcaaccca	ctgcgttatg	caaccatcct	tccacctgtt	420
gttgttgcca	agattggagg	cctgggtgggt	ttgtgagggg	tgggattgac	catctccttt	480
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gagcatatgg	cagtgggtgaa	gcttgccctgt	gaggccacca	ctgtggacaa	cctctatgcc	600
tttgtgggtg	caatctttct	tgggtggggg	gatgtgggtc	tattgcctat	tcttatgggc	660
tgattgtgag	gactgtaatg	cattttcctt	cacctgagga	acgtgcgaaa	gcaggcagca	720
catgtacagc	ccatgtctgt	gtcatcctct	tcttctatgg	actgggcttt	ctttctgtgg	780
tcatgcagcg	ctttggagca	cccacagctt	ctactgccaa	ggtcacctt	gccaatctct	840
acttgcctct	tccccagca	ctggatccca	ttgtctatgg	catggagacc	aagcagatct	900

aggagcggct attgatgatt ctaagcccca agcagattga gcttacctga gtatagttat 960  
caccagctgg acttcagggt 980

<210> 301  
<211> 721  
<212> DNA  
<213> Unknown (H38g150 nucleotide)

<220>  
<223> Synthetic construct

<400> 301  
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gctcaaaagc taatgtaaag tcaaattctt tttctttacc tatgctggat gctgtgagaa 180  
actactgctt gctgtagaaa agagagatct tcctttttgt tcattcattt cctccttcac 240  
tagtcaactg ctgtttctga ccattgccaag gtggaacctg gagtaggaag gagagagaga 300  
gggtaaggga agtctcattg actgacgcta aaataagatg gcttcacatt ttctggctct 360  
ggccaatgtt tactatttct tactcatatt aaacctctct gaatgcattt aacctatggga 420  
gcaagtcttc tccccgaggt gcgtccccc gattttcttc agttcccagt ggtcccatat 480  
aatctctcac agctggacgt tcaactcagta tgtaagacta ccattctggg tacaatccct 540  
ttcaaagcaa ctaaccact ttagtttcca tggccagtcc ttcaaactct catatatctg 600  
actagctata agtggagctg taactcccat tttgctgcaa agaccacggg gccagagttc 660  
ggttgacgtc tgacatatcc ctgatgacag gatacacaca ttaaaacctc tgagtggccc 720  
c 721

<210> 302  
<211> 939  
<212> DNA  
<213> Unknown (H38g151 nucleotide)

<220>  
<223> Synthetic construct

<400> 302  
atggcatctc ccaacaatga ctccactgcc ccagtctctg aattcctcct catctgcttc 60  
cccaacttcc agagctggca gcactggtg tctctgcccc tcagccttct ctctcctctg 120  
gccatgggag ctaacaccac cctcctgatc accatccagc tggaggcctc tctgcaccag 180  
ccccgtact acctgctcag cctcctctcc ctgctggaca tcgtgctctg cctcacctgc 240  
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ttcctccaga tgttcacat gaacagtttt ttgacctagg agtctgcac gttcatgggc 360  
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gaccagtttg tggctagggc cgtggtcttt gttatagccc ggaatgcctt tgtttctctt 480  
cctgttccca tgccttctgc caggctcaga tactgtgcag gaaacataat caagaactgc 540  
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taccagtttg tggcaggctg gactctgttg ggctctgatc ttatccttat tgttatctcc 660  
tattctttta tattgaaagt tgtgcttagg atcaaggccg aggggtgctgt ggccaaggcc 720  
ttgagcacgt gtggttccca cttcatcctc atcctcttct tcagcacagt cctgctgggt 780  
ctggtcatca ctaacctggc caggaagaga attcctccag atgtcccat cctgctcaac 840  
atcctgcacc acctcattcc cccagctctg aacccattg tttatgggtg gagaaccaag 900  
gagatcaagc agggaatcca aaacctgctg aagagggtg 939

<210> 303  
<211> 405  
<212> DNA  
<213> Unknown (H38g152 nucleotide)

<220>  
<223> Synthetic construct

<221> misc\_feature

&lt;222&gt; (1)...(405)

&lt;223&gt; n = A,T,C or G

&lt;400&gt; 303

aaagatttgt	gaaggagaag	taatattaac	tttagaatag	aaagtattat	atTTTTTTat	60
ataggggtgg	gagagangat	gggttttatga	aattaattgt	taatgttttg	tgaaggtttt	120
taatgataaa	aaactgtgtt	aaggattaag	ggtgagggag	atatggccaa	agctctaggt	180
acttgtggtt	cccattcat	cctcatcctc	ttcttcacca	cagtcctgct	ggttctggtc	240
atcactaacc	tggccaggaa	gagaattcct	ccagatgtcc	ccatcctgct	caacatcctg	300
caccacctta	ttccccagc	tctgaacccc	attgtttatg	gtgtgagaac	caaggagatc	360
aagcagggaa	tccagaacct	gctgaggagg	ttgtaaaaaa	taaaa		405

&lt;210&gt; 304

&lt;211&gt; 960

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g153 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 304

atggctccga	ccaacctcac	atctgcccc	gtgttctctc	tcctcggcct	ggtggacgga	60
acagacagag	gcccaccgc	tgctgttct	gctctgcctt	ggcatctatc	tgctcaacgc	120
cctgagcaac	ctgagcatgg	tggcgctgg	gagatctgac	ggggccctcc	gctcccccat	180
gtattacttc	ttgggtcacc	tgagcctcgt	ggacgtctgc	tttaccaccg	tcacgggtccc	240
caggctgctg	gcccggcctg	tccaccggg	ccaggccata	tccttccagg	cgtgctttgc	300
cgagatgtac	ttcttcgtgg	ctctgggcat	caccgagagc	tacctccggg	cggccatgtc	360
ctacgaccgc	gcgacggcgg	cgtgccggcc	cctgcgctac	ggcgcgctgg	tgacgccatg	420
ggcgctgcgc	ctcgctgggt	cgtgcgtcgt	gggccgtgac	gcacctgcac	tcgctgctgc	480
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gcgcgcatcc	tggtcgcggt	gctcggcttg	ccgcggccgg	cgccgcgcct	tctccacctg	720
cggggccccc	ctagtggcgg	tggcggtggc	ggtggcgctt	ttctttggct	ctgtcctctc	780
cgtgtatttc	ccgcgctcgt	ctgcctactc	agcccgttac	gaccgcctgg	ccagcgtgggt	840
ctacgctgtc	atcacgccga	ccttgaaccc	tttcatcaac	agccttcgca	acaaagaggt	900
caagggcgcc	ctgaaaaggg	ggctcagatg	gagggctgca	ccccaagagg	cgtgagggca	960

&lt;210&gt; 305

&lt;211&gt; 975

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g154 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 305

atgttctctc	ccaataaac	ccagtttcac	ccctcctcct	tcctgttgct	ggggatccca	60
gggctagaaa	cacttcacat	ctggatcggc	tttccctttt	gtgctgtgta	cataattgca	120
ctcatagggc	gcttcactat	tctacttggt	atcaagactg	acagcagcct	ataccagccc	180
atgttctact	tcctggccat	gttgccacc	attgacttgg	gcctttcaac	agctaccatc	240
cctaagatgc	ttgggatctt	ctggtttagc	ctcagggaga	ttatctgtga	tgctgcctc	300
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aaggctgttt	ctgtgattgg	tcttgggtgtg	ttagttaggt	catttatgtc	tgttattcca	480
tttgtttttc	tcatttttgcg	gttgcccttc	tgtggggatc	atgtcattcc	ccacaccaac	540
tgtgagcaca	tgggtcttgc	tcactctgtc	tgttccagta	tcaagatcaa	tataatctat	600
ggcttgggtg	ctatttcaat	cctagtattc	gacatcatag	ccattgcctt	ttcttatgtg	660
caaatacttc	acgctgtttt	ccatcttctc	tcctgtaaaag	cctgactcaa	gtccctcagc	720
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gtgactcatc	gctttggcca	aaatgtgccc	cgctatatcc	atatactcct	agccaatctc	840

tatgtttgtg	tgccaccaat	gctcaatcct	gtcatatatg	gagtcagaac	caagcagatc	900
tatgtctgtg	tgaagaatat	attctttacaa	aaataagaaa	ttgaaaagaa	atcgcatcta	960
atacatataa	gaagg					975

&lt;210&gt; 306

&lt;211&gt; 957

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g155 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 306

atgtctcctc	ttaatgacac	aaaaatggaa	gtccttagat	tcctccttat	cgggatacact	60
ggactggaga	aaagtgcgac	ctggatatcc	attcctttct	tatctgtgta	ccttctttct	120
tggatgggta	attttaccgt	cctctttttt	atcaagacag	agcaaagcct	ccatgaacct	180
atgtattatt	tgctttccat	gctctccatc	tctgacctag	ggctgtctct	gtcttccctta	240
cccatcactt	tgggactatt	cctatttgat	gtccatgaaa	ttcatgcagc	tccatgcttt	300
gcctaggaat	tttttatcca	tctgtttaca	gtcagtgaag	cctctgtact	gtctgtaatg	360
gcatttgact	ggtatgtggc	aatccacagt	cctttgagat	acagcactat	cttaactagt	420
cccagagcca	tcaaaacagg	ggttcttctg	acttccaaga	atgttctttt	gatacctcca	480
ctgccctttc	tcttgcaaaag	gctgagatat	tgatcatcaa	acctgctctc	ccactcctat	540
tgtctccacc	aggatgtcat	gaagctgatg	tgttctgaca	acacagtcac	tggtgtctac	600
ggactctgtg	caggactttc	tactatgctg	gacttggtgt	tgattacctt	ctcctaaatt	660
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tttctgctgg	tgccaccctt	gttgaatccc	atcgtgtact	gtgtgaagac	ccaccaaate	900
cgagaaaagg	ttgtggggaa	actttgtcca	aaagtaagtt	gatcaaagga	atgagaa	957

&lt;210&gt; 307

&lt;211&gt; 939

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g156 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 307

atgtccatta	tcaacacatc	atatgttgaa	atcaccacct	tcttcttggt	tgggatgcca	60
gggctagaat	atgcacacat	ctggatctct	atccccatct	gcagcatgta	tcttattgct	120
attctaggaa	atggcaccat	tctttttatc	atcaagacag	agccctcctt	gcatgagccc	180
atgtactatt	ttctttccat	gttggtctatg	tcagacttgg	gtttgtcttt	atcatctctg	240
cccactgtgt	taagcatctt	cctgttcaat	gtcctgaaa	tttcatccaa	tgccgtcttt	300
gcccaggaat	tcttcattca	tggattctca	gtactggagt	cctcagtcct	cctgatcatg	360
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ttccctttca	ctttaagaaa	cttgagatat	tgcaagaaaa	accaattatc	ccattcctac	540
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ctgatectca	agactgtacc	gggaattgca	tccaaaaagg	agcagcttaa	ggctctcaat	720
acttgtgttt	cacacatctg	tgcatgtgat	atcttctacc	tgcccatcat	caacctggcc	780
gttgtccacc	gctttgcccg	gcattgtctc	ccctcatta	atgttctcat	ggcaaatggt	840
ctcctaettg	tacctccact	gacgaaccca	attgtttatt	gtgtaaaaac	taaacagatt	900
agagtgtgag	ttgtagcaaa	attgtgtcaa	cgggaagatt			939

&lt;210&gt; 308

&lt;211&gt; 925

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g157 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 308

atggtgaata	gaaacaatgt	gacagagttt	attctactgg	ggcttataga	gaatccaaaa	60
atgcagaaaa	tcatatttgt	tgtgttttgt	catctacatc	accaccatga	taggaaatgt	120
gctcatttgg	gtcaccgtca	ctgccagccc	atcattgagg	tcccccatgt	actttttacct	180
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ccccttaatc	tacaccttga	ggaatgctca	gatgaaaaat	gccattagga	aattgtgtag	900
taggaaagct	atttcaagt	tcaaa				925

&lt;210&gt; 309

&lt;211&gt; 963

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g158 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 309

atggcatacc	atggcaacag	gggcactttt	caccagacca	cattttttct	cattggaatc	60
ccaggtctgg	aagacgtcca	tatgtgaatc	tccttgcact	tctgtctctg	ttaccttttg	120
gctttgctgg	gaaatgctac	cattctgcta	gtcatcaagg	cagaacagac	cctccggggag	180
cccattgttct	acttttctggc	catcctttcc	acaattgatt	tggccctttc	tacaacctct	240
gtgcctcgta	cgctgggtat	cttctgggtt	gatgtcatg	agattaactt	tggagcatgt	300
tgggcccaga	tgtttctgat	ccatgccttc	actggcatgg	aggctgagg	ctgggtggcca	360
tggcctttga	ccgttacgtg	gccatctgca	atccacttca	ctacacaaac	atcttgacat	420
cccgggtgct	gggtgggcac	actatgtgca	ttgtaattcg	tccagttctg	tttactactc	480
cgataatcta	tctcatctac	cgttttaccat	tttggtcagg	gtcatataaa	tagcccatte	540
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ctatgggctc	tttgtgggtc	cctctatctc	ctgaacctgg	tccttattgt	tatctcatat	660
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ctctatttgg	ttatccacc	ctctctcaac	cccatcattt	gtgggggtgag	gaccaaattg	900
aaacgagagc	gagtgtctta	tgtacttact	aaaaaataag	attctgacca	tgttctttta	960
cta						963

&lt;210&gt; 310

&lt;211&gt; 483

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g159 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 310

ggcacagttt	agatcctctc	cccagttctga	cttcctttct	atgatcccaa	tgtcatagct	60
cattcatgtg	tgacttaaac	actttgttga	aactcctctg	catgggtact	actaatacac	120
ttggtttctt	tgttgctgcc	aatgggtgggt	tcaactacct	attaaacatc	attttcttga	180
tggtttctta	agtggccatc	ctatgtactt	tgaaaactca	cagcttggag	gaaagatgct	240

aaagccctct	ctacctgcat	ctctcacacc	accgtgggtca	tcttatcttt	gggttctgta	300
tatctgtgta	tctgtgcca	gtgacccttc	cccaatcaat	aaagcagtg	ctgtgtttta	360
taccatgata	aatcctatgt	taaaaccttt	agtctaacc	tcagaaatgc	agaggtgaaa	420
agtgccttga	gaaagctctg	ggtcaaaaga	tgaactgaag	agagaaataa	tccaaacata	480
aga						483

&lt;210&gt; 311

&lt;211&gt; 933

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g160 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 311

atgttttata	acaacaagag	catattttcac	ccagtcacat	ttttcctcat	tggaatccca	60
ggtctggaag	acttccacat	gtggatctcc	gggcctttct	gctctgttta	ccttgtggct	120
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atgttctact	tcctggccat	tctttccact	attgatttgg	ccctttctgc	aacctctgtg	240
cctcgcatgc	tgggtatctt	ctggtttgat	gctcacgaga	ttaactatgg	agcttgtgtg	300
gccagatgt	ttctgatcca	tgccttccact	ggcatggagg	ctgaggtctt	actggctatg	360
gcttttgacc	gttatgtggc	catctgtgct	ccactacatt	acgcaaccat	cttgacatcc	420
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tacattctcc	gtgctgtctt	ccgcctccca	tcacatgatg	ctcagctaaa	agccctaagc	720
acgtgtggcg	ctcatgttgg	agtcactctg	gttttctata	tcccttcagt	cttctctttc	780
cttactcatc	gatttggaca	ccaaatacca	ggttacattc	acattcttgt	tgccaatctc	840
tatttgatta	tcccaccctc	tctcaacccc	atcatttatg	gggtgaggac	caaacagatt	900
cgagagcgag	tgctctatgt	ttttactaaa	aaa			933

&lt;210&gt; 312

&lt;211&gt; 946

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g161 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 312

atggagaata	ggaataacgt	gacagagttt	gttttactag	ggcttacaga	gaatccaaag	60
atgcagaaaa	tcatatttgt	tgtgtttttt	tgtcatctat	atcatcactg	tggtgggaaa	120
tgcgctcatt	gtggtcacca	tcactgccag	cccactcactg	gggtccccc	tgtacctttt	180
cctggcctat	ctctccttta	tagatgcctg	ctattcttct	gtcaataccc	ctaagctgat	240
cacagattca	ctctatggaa	agaacacccat	cctatttcaat	ggatgcatga	ctcaagtctt	300
tggagaacat	ttcttcggag	gtgcagaggg	tatcctactt	actgtgatgg	cctatgaccg	360
ctatgtggcc	atctgcaagc	ccttgcacta	tatgactatc	atgaaccagt	gtgtgtatgc	420
cctgctaagt	ggagtgggtg	ggatgggagg	ctttcttcat	gcaaccatac	agatcctctt	480
catcttccaa	ttacctttct	gtggtcctaa	tgtcatagat	cactttatgt	gtgatctgaa	540
ccctttgtc	aacctcgcct	gcactgacac	ccatatgctg	ggactcttca	ttgctgccaa	600
cagtggattc	atctgcttgt	taaactttgt	cctcctgctg	gtctcctatg	tggtcatctt	660
gcgctcccta	aggactcaca	gcttggaggc	aaggcaca	gccctctcca	cctgtgtctc	720
ccacatcaca	gttgtcatct	tattctttgt	gccctgcata	tttgtgtaca	tgagacctgc	780
agctacttta	cctattgata	aagcagttgc	tatattctac	actatgataa	ctcctatgtt	840
aaacccttta	atctatacct	tgaggaatgc	ccagatgaaa	aatgccatca	ggaaattgtg	900
tagtagaaaag	gacatttcag	gtaacaaata	aatgtaacta	gagctc		946

&lt;210&gt; 313

&lt;211&gt; 966

&lt;212&gt; DNA

<213> Unknown (H38g162 nucleotide)

<220>

<223> Synthetic construct

<400> 313

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gttgggatcc	caggtttggg	gcatgccaat	atttggatct	ctatccccc	atgtctcatg	120
tacactgttg	ctatcctagg	gaattgtacc	attctgtttt	tcataaaaac	agagccttct	180
ttgcatgagc	ccatgtacta	ttttctctcc	atgttggtcc	tctctgacct	gggactatcc	240
ctctcctctc	tccttaccat	gttaaggatt	ttcctgttca	atgctccagg	aatttcccct	300
gatgcctgta	ttgtcgaaga	gtttttcctc	catggattct	cagctatgga	gtcatctgta	360
cttcttataa	tgctccttga	tcgctttatt	gccatctgca	accccctgag	atacacttcc	420
atcctcacca	gtgccagagt	cattcaaatt	gggcttgctt	tttctctcaa	aaatgttttg	480
ttgatcctcc	catttccctt	cactctaaaa	catctaaaat	attgtaagaa	gaacctcctg	540
tcccaatcct	actgcctcca	tcaagatgtc	atgaaactgg	cctgcactga	caacaagggtc	600
aacatcatct	atggcttatt	tgtggctctc	acaggcatcc	tagacttgac	atttattttc	660
atgtcctaca	tggtgatact	gaaagcagtg	ttgagcatag	catcatgaaa	gaaaaggctc	720
aaggctctca	atacatgtgt	ttcccacatc	tgtgctgtgc	tcattcttcta	tgtgcccatt	780
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atagctgatg	cttttctgct	ggtgcctcca	ttgatgaacc	ccattgtata	ctgtgtgaag	900
agccagcaga	taagaaatct	tgtcttagaa	aaactgtgcc	agaagcaaa	ctgaagcgga	960
tgctta						966

<210> 314

<211> 961

<212> DNA

<213> Unknown (H38g163 nucleotide)

<220>

<223> Synthetic construct

<400> 314

agtcacacag	agccacagaa	tctcacaggt	gtctcagaat	tcctcctcct	gggactctca	60
gaggatccag	aactgcagcc	actccttgct	gggtgttcc	tatccatgtg	cctggtcacg	120
atgctgggga	actgctcatc	atcctggcgg	tcaccctgac	tcccacctcc	acatccccc	180
gtacttcttc	ctctccaacc	tggtccttgg	ccatgacatt	gcgtttcacc	ttaggccacg	240
gtccccaaga	tgattgtaga	catgcaatca	catagcagag	tcattctcca	tgcaggctgt	300
ctgacacaga	tacctttctt	tgctcctttt	gtatgtatag	atgacatgct	cctgactgtg	360
atggcctatg	actgatttgt	ggccatctgt	caccccttgc	actaccaggt	catcatgaat	420
cctcacctct	gctgtcttct	tagtgttgat	gtcttttctt	tagcctgttg	gattcctagc	480
tgcacaactg	gattgttaca	attcacctgc	ttcaagaatg	tggaaatctc	taattttttc	540
tgtgactgat	ctcaacttct	caaccttgcc	tgttctgact	gtcatcagta	acatattcat	600
acatttagat	agtactatat	ttgggtttct	tcccatttca	gggatccttt	tgtcttacta	660
taaaattgtg	ccctccattc	taagaattcc	attgtcagat	gggaagtata	aagccttctc	720
cacctgtggc	tctcacctgg	caattgtttg	cttattttat	ggaacaggca	ttggcatgta	780
cctgacttca	gctgtgtcac	cagccccag	gaatgggtgtg	gtggcatcag	tggtgtacgc	840
tatgtcaccc	ccatgctgaa	ccccttcatc	tgcagcctga	gaaacagggg	gcattcaaag	900
tgccctgtgg	aggctgtgca	ggaggaaaagt	ctaattctcat	gatctgtttc	atcctttttc	960
t						961

<210> 315

<211> 960

<212> DNA

<213> Unknown (H38g164 nucleotide)

<220>

<223> Synthetic construct

<400> 315

atgcgtctca	tatgagatga	agaaatgtcc	agaagaaact	atactgaact	gacagaattt	60
------------	------------	------------	------------	------------	------------	----

gttctcttgg	gtctaacaag	ccgtccagag	ctgcgagttg	ctttcttggc	actgttcctt	120
tttgtctaca	tagccactgt	ggtaggaaac	ttggggatga	ttattttaat	caaagttgat	180
tctcgacttc	acactcccat	gtaatttttt	ctctccagtt	tgtccattct	agatctgtgt	240
ttctccacaa	atttccactc	caaaatgcta	gaaaatttct	tatcagagaa	gaagaccatt	300
tcctatgcag	gttgtttgat	gcagtgctat	gttgtcattg	ctgtggtcct	tgcagagcac	360
tgcattgttg	cagtcattgg	atatgaccgc	tatatggcca	tctgtaatcc	attgctctac	420
agtagcaaaa	tgtcccaagg	tgtttgtgtc	cacctgggtc	ttgtccctta	tgtctatggc	480
tttcttctca	gtgtgatgga	aaccttaagg	acctacaacc	tctccttctg	tggaaacaaat	540
gaaatcaacc	atttctactg	tgtgtatcct	cctcttatca	aactggcatg	ctctgacacg	600
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atggtggctg	tgttttacac	cacagtgata	ctcatgctga	actccatgat	ctatggcctc	900
aggaacaagg	atgtgaaaga	ggcgttgaaa	aaagcaatag	gaaaacaaac	attgggaaaa	960

&lt;210&gt; 316

&lt;211&gt; 947

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g165 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 316

aggaggatgg	gcaatcacac	tgcagtgagc	ctattccttc	tgtggggatt	ttccagtttt	60
tcagacctgc	agagtctact	ttttgtgggtg	attctcttct	acatgtgacc	atcctagctg	120
caaacgtgtc	cataatgggg	gccatcaagc	tcagccacaa	ccttcacact	cctatgtact	180
ttttcctctg	tggcctgtcc	ttttcagaaa	cttgtaccac	tgtggtagta	atccctcgca	240
tgttgggtgga	ctttctatca	gagagcaaga	ccatttctct	tcctgagtgt	gccacacaga	300
tgtttttctt	tctgggcttt	gcatccaaca	actgtttcat	catggccgct	atgtcctacg	360
accgctacac	ggccatccac	aacctactgc	agtaccacac	ccttatgaca	agaaagatct	420
gcttgcagat	gatgatggct	tcttggatgg	ttgggttccct	gttttctctg	tgcacatcog	480
tcactgtatt	caacttgtct	ctttgcgact	tgaacactat	ccagcactat	ttctgtgata	540
tctcaccagt	ggtctccctt	gcttgttaatt	acactttcta	tcatgaaatg	gctatttttg	600
tgtctctctg	ctttgtgttg	gtgggcagct	gtattttaat	tatgatttcc	tatgtcttca	660
ttgtgttcat	agtcataaag	atgccctctg	caaaggggag	gtctaaggcc	ttctcaactt	720
gtcctctcca	cctcactgtt	gtgtccatac	actatggatt	tgtttgcttt	gtctatttga	780
ggcccaagaa	cagcaactcc	ttcgatgaag	acatgctgac	ggccatgata	tatacaatac	840
tgatcctctt	gcttaacccc	atcgtgtaca	gtctgagaaa	caaagaaatg	cagatagccc	900
taagaaaaac	actaggcagt	gtatttgggg	ttttccctca	gaagaca		947

&lt;210&gt; 317

&lt;211&gt; 955

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g166 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 317

atgtcagcat	acaataacac	caatgcccgt	ccatcaacct	ttattcttat	tggcatttct	60
gggttggaag	ctgctcacat	ctggatctcc	atcccccttt	gtgtgggtcta	cctgttggcc	120
ctactgggaa	acggctctct	tctgtttatc	atcaagacag	agcccagcct	ccatgagcca	180
atgtacctct	tcctatgcat	gctggctgta	gttgatcttg	ttgtgtgttc	tacagctgtg	240
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actcgtgttc	ctgattcact	cttgctccac	catggaatct	ggcttcttcc	tggccatggc	360
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tgtaatggg	agagtgggcc	tagctattgt	tctcaggggc	atagcacttc	tcagtcctca	480
ctctttccta	ctacgctggc	ttccctactg	cagaacccat	atcatttctc	acacctactg	540
tgagttcatg	gccctcatca	ggattgcctg	tgtctgagaca	aaattccgca	gagcctacag	600

cctcattggt	gccttcctta	ctgggggtggt	agactttata	ttgatcattt	attctttatgt	660
cctcatactc	cacactgtct	tccagctccc	atccaaagat	gcccggctca	aatctttggg	720
cacctgtggc	tcccatgtct	gtgtcatctt	agtatcctat	actccagcct	tcttctcggt	780
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ctatcttctt	gtccccacca	tgggtgaacc	cattatctat	ggggtaagaa	ccaaaaggat	900
ttgggacagg	ttccttaaag	ttttcagttt	ttcaaagcct	ctaagtaaat	cattt	955

&lt;210&gt; 318

&lt;211&gt; 921

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g167 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 318

atgctcaatt	tcaccgatgt	gacagagttc	attctttttg	ggctaacgag	ccgtcgagaa	60
tggcaagttc	tcttcttcat	catctttctt	gtggtctaca	tcatacccat	ggtgggcaat	120
atcggcata	tgggtgtta	caaggtcagt	cctcagctta	acaaccccat	gtactttttc	180
ctcagtcact	tgtcatttgt	tgatgtgtgg	ttttcttcca	atgtcacccc	taaaatgttg	240
gaaaacctgt	tatcagataa	aaaaacaatt	acttatgctg	gttgtttagt	acagtgtttc	300
ttcttcattg	ctcttgteca	tgtggaaatt	tttattcttg	ctgcgatggc	ctttgataga	360
tacatggcaa	ttgggaatcc	tctgctttat	ggcagtaaaa	tgtcaagggg	tgtctgtatt	420
cgactgatta	ctttccctta	catttatggg	tttctgacga	gtctggcagc	aacattatgg	480
acttacggct	tgtacttctg	tggaaaaatt	gagatcaacc	atttctactg	tgcagatcca	540
cctctcatca	aaatggcctg	tgccgggacc	tttgtaaaa	aatatacaat	gatcatactt	600
gccggcatta	acttcacata	ttccctgact	gtaattatca	tctcttactt	attcaccctc	660
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cccacagagg	agtctgtgga	gcaggggaag	atgggtggctg	tgttctatac	cacagtgatc	840
cccatgttga	atcccatgat	ctacagtctg	aggaacaagg	atgtgaaaaa	ggccatgatg	900
aaagtgatca	gcagatcatg	t				921

&lt;210&gt; 319

&lt;211&gt; 966

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g168 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 319

atgaccatga	caacggagaa	cccccaaccag	actgtgggtga	gccacttctt	cctggagggt	60
ttgaggatga	ccgctaaaca	ttctagcctc	ttcttctctc	tcttctctct	catctacagc	120
atcaactgtg	ctgggaatct	cctcatcctc	ctaactgtgg	gctctgactc	tcacctcagc	180
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acagtcatgg	cctatgaccg	ctatctgggt	atctgtcaac	ccctgcacta	cccagtggcc	420
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gctgcaatcc	acacctccct	caccttccgc	ctgctctact	gtgggccttg	ccacattgcc	540
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tacacaatcg	taactccaat	gctcaaccca	ttcattttaca	ctttgcggaa	caaggagggtg	900
aagcatgctc	tgcaaagggt	tttgtgcagc	agcttccgag	agtctacagc	aggcagccca	960
ccccc						966

&lt;210&gt; 320

&lt;211&gt; 967

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g169 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 320

aaaatgctca	atttcaccga	tgtgacagag	ttcattcttt	tggggctaac	gagccgctcg	60
gaatggcaag	ttctcttctt	catcgTTTT	cttgtggctt	acattatcac	cgtgggtggg	120
aatatcgga	tgatgttggt	aatcaaggtc	agtcctcagc	ttacagccc	catgtacttt	180
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gtgtttcttc	ttcattgctc	ttgtccatgt	ggaaattttt	attcttgctg	cgattgcctt	360
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cagacgtccc	acagaggagt	ctgtggagca	ggggaagatg	gtggctgtgt	tctataccac	840
agtgatcccc	atgttgaatc	ccatgatcta	cagtctgagg	aacaaggatg	tgaaaaaggc	900
catgatgaaa	gtgatcagca	gatcatgtta	aacaaaataa	aatcaagttt	gaattaattt	960
tgtcttc						967

&lt;210&gt; 321

&lt;211&gt; 933

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g170 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 321

atgtccaacg	ccagcctcgt	gacagcattc	atcctcacag	gccttcccca	tgccccaggg	60
ctggacgccc	tcctcttttg	aatcttctctg	gtggtttacg	tgctcactgt	gctggggaac	120
ctcctcatcc	tgctgggtgat	cagggtggat	tctcacctcc	acacccccat	gtactacttc	180
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tattttttcc	acttcctggg	gagcaccgag	tgTTTTctct	acacagtcac	gtcctatgat	360
cgctacttgg	ccatcagtta	cccgtcagg	tacaccagca	tgatgagtgg	gagcaggtgt	420
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gcctcccaact	gtattgtggg	cctttgcttc	tttgttccct	gtgttgatcat	ttatctgagg	780
ccaggtccca	tggtatgcat	ggatggagtt	gtggccattt	tctacactgt	gctgacgccc	840
cttctcaacc	ctgttgtgta	cacctgaga	aacaaggagg	tgaagaaagc	tgtgttgaaa	900
cttagagaca	aagtagcaca	tcctcagagg	aaa			933

&lt;210&gt; 322

&lt;211&gt; 953

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g171 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 322

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ggagttggat tgtaaaaact ttgatggcaa atttatattct cgggagactc tttctcaaca      60
tgggaaatgt tttctctctc aattttacaa cttccttaga tgtacactgt ggccctctca      120
gggacatcta ttctgatttt cttgattttg acagatttct gagttcacac atcattgtac      180
tctttctgag ttctcattga tatagccatt tctgttgta aaattggtat tgaggttttc      240
tctggaaaga taaacttctc acatactggt tgtggaactc agattttctt ctttctgact      300
gctggcattt tcaaataatgt ccttctcact tatatggctt atgaccataa cgtggctatc      360
tgtgcctgag tgaccaacct tcatgagtga tcaggctctc tagcaatggg cagtagagtc      420
ttggattgga ggaaaaacttt cttctttggc tcataccatt tatatttttc atttattcag      480
ctataagca aaggagatta gccacttatg gccaagctc ttttaaagct cctctgtggg      540
gatccccat atacaaaatg atgttttttt cacaataatt acattcttgt tcaccctgct      600
tctcttact ctgaccttat cctccaagct tattgtgttc actatcctac acatgaactc      660
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ctgaagaatg cagaagtggc aggagcttgg agcaagtctt tgtaaaagaa agcgctaaaa      900
agtcaacacc ttattatcgt agctgtgaaa ataaataaac aacagagcag agt          953

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&lt;210&gt; 323

&lt;211&gt; 960

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g172 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 323

```

atgctggtac ctaagaaaat ggtagagga aattctactt tggtagcggg atttattctc      60
ttgggattaa aggatcttcc agagcttcag cccatcctct ttgtactgtt cctgctaate      120
tacctgatca ctgtcggggg gaaccttggg atgttggtgt tgatcaggat agattcacgc      180
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gctgcttgtt tagtccagtg ctattttttc attgctgtgg tgattactga atattatatg      360
ctagctgtaa tggcctatga taggtatgtg gccatctgta accctttgct ttacagcagc      420
aagatgtcca aagggctctg tattcgctg attgctggct catatgtcta tgggtttctt      480
agtggactga tggaaacat gtggacatac cacttgacct tctgtggctc caatatcatt      540
aatcacttct actgtgctga cccacccctc atccgacttt cctgctctga cactttcatt      600
aaggaaacat ccatgtttgt ggtagcatga tttaacctct ccagctccct catcataatc      660
ctcatctcct acatcttcat tctcattgcc atcctgagga tgcgttctgc tgaaagttag      720
cgaaagcgt tctccacctg cgggtccac ctgggtggcg tgactgtgtt ttatggaacc      780
ctgttctgca tgtacgttag acctccacg gacaggtcag tggaacagtc caaagtcatt      840
gctgttttct acatttttgt aagccctatg ttgaacccca tcatctatag tttgaggaac      900
aaggatgtga aacaagcttt ttggaaactg atcagaagaa acgtgctttt gaagtaaaat      960

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&lt;210&gt; 324

&lt;211&gt; 705

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g173 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 324

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atgctcttta tatcccagtg gggagagaga tgaagggtga gaagaaatgt ccaactcatg      60
acagattca tctcatgga ccttccccat gtcccagctc tggacgcccc actctttgga      120
gtcttcctgg tggtttatgt gcttactgtg ctggggaacc tctcctcct gctgggtgatc      180
agggtgtact ctacactcca ccccccaag tactacttcc tcaccaatct gtccttcatt      240
gacttggtgt tcttactgt catggtgccc aaaatgccga ggaccttgtt gtccctgtgt      300
ggcaaggctg tgtccttcca cagttgtatg acccaactct atttcttcta cttcctgggg      360
agcaccgagt gtttgctcta cacggctcat tctatgacg gctatagagg aaatactcag      420
cacttcccag gtagtgaaaa cactccccac gaagtgagcc aaatgctagt ggccggggg      480
gcacacgggc tcccactcat catcctggca gatctgagtg ggtaactaag agttgatagt      540

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tcttagtggg caattcaaaa ttagtaatat aatttagtta tccaagtga atttattaca	600
tgtatagggtc tcagcattaa acattattcc aaacaacttg cacagttata attctttcac	660
agattatcta agacattttt aaattcacag ctagattttt attta	705

&lt;210&gt; 325

&lt;211&gt; 921

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g174 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 325

atgatcaccg agttcatcct tataggcttc tcaaacctgg gggatctgca gatccttctc	60
ttctttatct tcctattagt ctacctgacc actctgatgg ccaacaccac catcatgaca	120
gtcattcacc tggacagggc tttgcacact cctatgtact tcttctctt tgtcctttca	180
tgttctgaaa cctgctacac cttgggtcatt gtacccaaaa tgcttaccac cctgctatcc	240
gcaattecaa ctatttcttt ctctggatgt gtggtccagc tctatttatt tgtgggcttg	300
gcttgtagca actgttttct cattgctgtg atgggctacg atcgctatgt tgccatctgc	360
aacccctta actacacact cattgtcagc tgagccacct gcctgcagct ggttctagcc	420
tccagctttt gtggcttctt gacttctgtg attgtcaata tctgtgtgtt cagtgtgctc	480
ctctgtgcct ccaatcggat caaccacttt ttctgtgaca ttccctctgt cataaaactg	540
ggctgcacag acaccaacct gaaggagatg gtcattcttt tctcagcat tctggtattg	600
ctgggtcccc ttgtgttgat attcatctcc tacatcttca tagtttccac cctcctcaag	660
atctcctcag tggaaaggaca gtgcaaagcc ttcgccacct gtgcttccca cctcacagtg	720
gtcgtcgtcc actatggctg tgccttcttt atctaactga ggcccacatc cctgtactct	780
tcagataagg accggctcgt ggcagtgaact tatactgtga ttactccact actcaacccc	840
cttgtctata cactgagaaa taaagaagta aagatggctc tgagaaaggt tctgggtaga	900
tgcttaaatt ccaaaactgt a	921

&lt;210&gt; 326

&lt;211&gt; 470

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g175 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 326

atttgccaca atagaaaagt catccctgca tctatgtgaa atatgtttta tttctcttga	60
aagttgccta agacaatttt ctgcatgtac tgttcatact agctaaaact gctccccact	120
cttattcctc taggaaattc ctagtatttt ttcaagcccc agttagatta ttgtcctttg	180
atgcttaccg tgattcctga aacaattagt tattttgttt gtatttttat tattgaacta	240
atcatattta actttaattt tcatgtctct taccatgaaa atcaaccagc tctttcaagg	300
caagcactgt gatcagttgt cttcaattcc ccagcaaagc aacttgcatg catggagtgt	360
tcagtgtctg ttgtgcacaa atgtaacct attacaatgg ttaaatcatt tagcatcctg	420
aaagcatcac agagtcaaag tagctaactt gtgtgaacct ttaattcaat	470

&lt;210&gt; 327

&lt;211&gt; 959

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g176 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 327

gggaccaagt caatcaagct aacttctctg tcagagttcc tgcttcttga gttctccagc	60
cttgaagaaa tccagcagat cctttttctg tctgcttctg gctatatctg attgttctga	120
gtggaaatat caccactgtc actgtcatcc gcctggatca aagcctccac atacctgtat	180
acttattcct agggatcctc tccatttctg ggacatgcta tacctttgtc attctgcccc	240

agatgctcat	agatctgttg	tctttgctca	gaacaatctc	atttattaac	tgccactcca	300
gtgttcttct	ttctgggttt	tgctgtcact	aatttcatgt	tcctgggcat	gacagtttat	360
gattcctatg	ttgccatctg	ccatccactt	cactaccctg	tccttacgag	ctggcagata	420
tgtaaacac	tggcagcaac	gtgtgctgtg	attgtttttt	tttgtttgtt	tgtttttact	480
gataggctcc	ttcttagatt	ttcagctgct	tttctgtggc	ccaaacaaga	tcaaccacta	540
cttctgtgac	atctcactgc	ttattcagct	tgctgtact	gatacctaca	tcagggagct	600
agtcactctc	attgggtggaa	ttctagcact	tacggttcct	ctgattttat	ttgcatctcc	660
tatggcttca	ttgttcacac	catectgagg	atcccatatg	tgaaagcaag	caaaaagcca	720
tctctacttg	tgccctcccat	cttattatgg	tcgttgtcca	ttatggctgt	gcctcctttg	780
tcaacctgtg	accatcagcc	aaataatcat	ccagcaaata	accatctagc	aagaacaggc	840
tggtgacagt	gaccttacac	agttgtgact	ccgttgttga	atccatggta	tatagcttca	900
agaataagaa	cgttcagatg	gccatttgga	aagtgatttg	ccaaggagga	tttctcct	959

&lt;210&gt; 328

&lt;211&gt; 952

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g177 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 328

atgagaagaa	actgtacatt	ggtgactgag	ttcattctcc	tgggactggc	caatcaccgg	60
gaattacaga	ttttctctt	cacgtgttt	ctcaccattt	acatggtcac	ggtggcagga	120
aatcttggca	tgattgccct	catccaggcc	aacgccccg	ctccacacgc	ccatgtactt	180
tttctgagc	aacttatcct	ttgtggatct	gtgcttctct	tccaatgtga	ctccaaggat	240
gctggagatt	ttcctttcag	agaagaaaag	catttccctat	cctgcccgtc	ttgtgcagtg	300
ttaccttttt	atcaccttgg	tccacgttga	gctctacatc	ctggctgtga	tggcctttga	360
ccggtacatg	gccatctgca	accctctgct	ttatggcagc	agaatgtoca	agagcgtgtg	420
ctctttcttc	atcacagtgc	tttatgtgta	tggagcactc	actggcctga	tggagactat	480
gtggacctac	aacctagcct	tctgtggccc	cagtgaatt	aatcacttct	actgtgtgga	540
cccaccactg	attaagctgg	cttgttctga	cacctacaac	aaggagggtg	caatgtttgt	600
tgtggctggg	ttcaacttca	cttatcctct	ccttatcctc	ctcatttctc	atctctacat	660
atttctctgc	accctaagga	tctgctctac	agaaggcagg	cacaaagctt	tttctacctg	720
tggctcccat	ctgacagccg	ttactatttt	ctattcagct	cttttcttca	tgtatctcag	780
acgtccatca	gaagagtcca	tggagcaggg	gaaaatggta	gctgtatttt	ataccactgt	840
aatccccatg	ttgaatccca	tgatctacag	tctgaggaac	aaagatgtga	aagaggcatt	900
atgcaaaagaa	ctgttcaaaa	gaaaattggt	ttctaataaa	acattactac	tg	952

&lt;210&gt; 329

&lt;211&gt; 949

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g178 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 329

acagatgtct	gagaattcct	cctcctggga	ctctcagagg	atccagaact	gcagccgggtc	60
ctcgcttttg	tgtccctgtc	cctgtccatg	tatctgggtca	cgggtgctgag	gaacctgtctc	120
agcatcctgg	ctgtcagctc	tgactcccc	ctccacaccc	ccatgtactt	cttctctctc	180
aacctgtgct	ggcctgacat	cggtttcacc	tgggcatagg	ttcccaagat	gattgtggac	240
acgcagctgc	atagcagagt	catctctcat	gcgggctgcc	tgacacagat	gtctttcctg	300
ctccttggtg	catgtataga	aggcatgtct	ctgactgtga	tggcctatga	ctgctttgta	360
gccatctgtc	gcccctctga	ctacccaatc	atcgtgaatc	ctcacctctg	tgtcttcttc	420
gttttggtgt	cctttttcct	tagcctgttg	gattcccagc	tgcacagttg	gattgtgtta	480
caattaacca	tcatacaaga	tgtggaaatc	tctaatttgg	tctgtgaccc	ctctcaactt	540
ctcaaacttg	cctgtttctga	cagcgtcatc	aataacatat	tcatatattt	cgatagtact	600
atgtttgggt	ttcttcccat	ttcagggatc	tttttgtctt	actataaaat	tgtccctctc	660
attctaagga	tttcatcgct	agatgggaag	tataaagcct	tctccacctg	tggctgtcat	720
ctagcagttg	tttgtctggt	ttatggaaca	ggcattgggt	tgtacctgac	ttcagctggg	780

tcaccacctc	ccaggaatgg	tgtgggtggct	tcagtgatgt	acgctgtggt	caccccatgc	840
tgaacctttt	catctgcagc	ctgagaaaca	gggacataca	aagtgccttg	cggaggctgc	900
gcagcagagc	agtcgaatat	catgatctgt	tccatccttt	ttcttgtgt		949

&lt;210&gt; 330

&lt;211&gt; 942

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g179 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 330

atgcgagggt	tcaacaaaac	cactgtgggt	acacagttca	tcctgggtggg	tttctccagc	60
ctgggggagc	tccagctgct	gctttttgtc	atctttcttc	tcctatactt	gacaatcctg	120
gtggccaatg	tgaccatcat	ggccgttatt	cgcttcagct	ggactctcca	cactcccatg	180
tatggctttc	tattcatcct	ttcattttct	gagtcctgct	acacttttgt	catcatccct	240
cagctgctgg	tccacctgct	ctcagacacc	aagaccatct	ccttcatggc	ctgtgccacc	300
cagctgttct	ttttccttgg	ctttgcttgc	accaactgcc	tcctcattgc	tgtgatggga	360
tatgatcgct	atgtagcaat	ttgtcacctc	ctgagggtaca	cactcatcat	aaacaaaagg	420
ctgggggttg	agttgatttc	tctctcagga	gccacagggt	tctttattgc	tttgggtggc	480
accaacctca	tttgtgacat	gcgtttttgt	ggccccaaca	gggttaacca	ctatttctgt	540
gacatggcac	ctgttatcaa	gttagcctgc	actgacaccc	atgtgaaaga	gctggcttta	600
tttagcctca	gcaccttggt	aattatgggt	ccttttctgt	taattctcat	atcctatggc	660
ttcatagtta	acaccatcct	gaagatcccc	tcagctgagg	gcaagaaggc	ctttgtcacc	720
tgtgcctcac	atctcactgt	ggcttttctc	cactatggct	gtgcctctat	catctatctg	780
cggcccaagt	ccaagtctgc	ctcagacaag	gatcagttgg	tggcagtgac	ctacacagtg	840
gttactccct	tacttaatcc	tcttgtctac	agtctgagga	acaaagaggt	aaaaactgca	900
ttgaaaagag	ttcttggaat	gcctgtggca	accaagatga	gc		942

&lt;210&gt; 331

&lt;211&gt; 942

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g180 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 331

atgatggggac	aaaatcaaac	cagcatctca	gacttctctgc	tcctggggcct	gcccattccaa	60
ccagagcagc	aaaacctgtg	ctatgccctg	ttcttggcca	tgtatctttac	cacctctctg	120
gggaacctcc	tcatcattgt	cctcatttga	ctggactccc	atctccacac	gcctatgtat	180
ttgtttctca	gcaacttgct	cttctctgac	ctctgcttct	cttccgtgac	cattcccaag	240
ttgttacaga	acatgcagaa	ccaggaccca	tccatccctt	atgcggactg	cctgacccaa	300
atgtacttct	tcctgttatt	tggagacctg	gagagcttcc	tccttgtggc	catggcctat	360
gaccgctatg	tggccatctg	cttccccctg	cactacaccg	ccatcatgag	ccccatgctc	420
tgtctcgccc	tgggtggcgt	gtcctgggtg	ctgaccacct	tcctatgccat	gttacacact	480
ttactcatgg	ccagggttgtg	tttttgtgca	gacaatgtga	tcctccactt	tttctgtgat	540
atgtctgctc	tgtgaagct	ggccttctct	gacactcgag	ttaatgaatg	ggtgatattt	600
atcatggggag	ggctcattct	tgtcatccca	ttcctactca	tccttgggtc	ctatgcaaga	660
attgtctcct	ccatcctcaa	ggtcccttct	tctaagggtg	tctgcaaggc	cttctctact	720
tgtggctccc	acctgtctgt	ggtgtcactg	ttctatggaa	ccgttatttg	tctctactta	780
tgtcatcagc	ctaatagttc	tactctaaag	gacactgtca	tggctatgat	gtacactgtg	840
gtgaccccca	tgttgaaccc	cttcatctac	agcctgagga	acagagacat	gaagggagcc	900
ctgagcagag	tcattcatca	gaagaaaact	ttcttctctc	tc		942

&lt;210&gt; 332

&lt;211&gt; 822

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g181 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 332

accataataa	atgtcaatat	tagtcctgag	tttgtccttg	tgggattttc	cagtgatgca	60
gagatccaga	tcattgctctt	tgtgctaata	ctgggtgattc	atctcctgac	tttgacgggg	120
aagctgggtga	tgatcctgga	gatcagggct	gattctcacc	ttcaaagacc	catgtacttc	180
ttcctttgac	atctgtcctt	tctggatctc	agctactcct	agttactgtg	cccaggatgc	240
tacaaaattt	cctctcagaa	gaaaagcattc	tcaatgtggg	gctgcctcac	caagtttctt	300
tttcaactctc	tctgggggaa	cggaagcctg	tctgttctct	gccatggcct	atgatcacta	360
tgctaccatc	cgccaccctg	tgggtctatac	catgggtcatg	aacagatctc	tctgtatggt	420
gattttgaga	attgcttggtg	cagcggggatt	tctgatttcc	ttgatggaca	gtcttttcac	480
ccacaagtta	cattttctgtg	ggcctgacat	catccttatt	tcagggtgtaa	gctgcctcca	540
ttcttccctc	tgctctacat	tgatcccaat	gtcaatgaga	ttcttctagc	tgtgtcacag	600
gcattctggg	ggctactgac	actttcccta	atcttcttct	cttactctag	aatcacatct	660
gtcatactga	gcattctgctc	ctctgagggc	caaggcaaag	ccttctccgc	atgcccttct	720
catctcgctg	tgggtctctc	attctatggg	acagcttttt	tcagataccc	aggctctact	780
tcaggttcgg	tgttggggca	agtgggtctct	gttcagtata	gt		822

&lt;210&gt; 333

&lt;211&gt; 935

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g182 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 333

atgagaagga	acttcacgtt	ggtgactgag	ttcattctcc	tgggactgac	gaatcaccag	60
gaattacaga	ttctcctctt	catgctgttt	ctggccattt	acatgggtcac	agtggcaggg	120
aatcttagca	tgattgcctt	catccaggcc	aatgcccggc	tccacacgcc	catgtacttt	180
ttccttagcc	acttatcctt	cctggatctg	tgtctctctt	ccaatgtgac	cccaaagatg	240
ctggagattt	tcctttcaga	gaagaaaagc	atttccctatc	ctgcctgtct	tgttcagtgt	300
tacctttata	tcattcttgg	acacgttgag	atctacatcc	tggctgtgat	ggcctttgac	360
tagtacatgg	ccatctgaaa	ccctctgctt	tatggcagca	aaatgtccaa	aagtgtgtgt	420
tccttctctc	tcacggtgcc	ttatgtgtat	ggagcgctca	ctggcctgat	ggagaccatg	480
tggacctaca	acctagcctt	ctgtggcccc	aacgaaatta	atcacttcta	ctgtgcagac	540
ccaccactga	ttaagctggc	ttgttctgac	acctacaaca	aggagtgtgc	aatgtttggt	600
gtggctgggt	ggaatctttc	gttttctctc	ttcatctat	ttatttcccta	cttttacatt	660
tttctgtcta	tcttaaggat	tcgctctaca	gagggcaggc	aaaaagcttt	ttctacctgt	720
ggctcccatc	tgacagctgt	tactattttc	tatgcaactc	tgttcttcat	gtgtctcaga	780
cctccatcag	aagagtccat	ggagcaagga	caaattggtg	ctgtacttta	taccactgtg	840
atccccatgt	taatcccatg	atctacagtc	tgaggaacaa	ggatgtgaaa	aaggctttat	900
ccaaagaact	gttcaaaaaga	aaattgtttc	ctaaa			935

&lt;210&gt; 334

&lt;211&gt; 945

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g183 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 334

atggagccag	aagctgggac	caataggacc	gctgttgctg	agttcattct	actgggccta	60
gtgcaaacag	aagagatgca	gccagttgtc	tttgtgctcc	tcctctttgc	ctatctggtc	120
acaattgggg	gcaacctcag	catcctggca	gccgtcttgg	tggagcccaa	actccacgcc	180
cccatgtact	tcttctctgg	gaacctatca	gtgctggatg	tcggatgtat	cactgtcact	240
gttctctgca	tggtgggtcg	tctcttgtcc	cacaagtcca	caatttcccta	tgacgcctgc	300
ctctccagc	tcttcttctt	ccacctctcg	ctggggtagg	actgcttcc	gctgaccgcc	360
atggcctatg	accgactcct	ggccatctgc	cagccctca	cctacagcac	cgcgatgagt	420

cagacagtcc	agaggatggt	ggtggctgcg	tcctgggctt	gtgccttcac	caacgcactg	480
acccacactg	tggccatgtc	cacgctcaac	ttctgtggcc	ccaatgaggt	caatcacttc	540
tactgtgacc	tcccacagct	cttccagctc	tcctgtctca	gcacccaact	caatgagctg	600
ctgctctttg	tagcagcagc	cttcatggct	gtggcaccct	tgggtcttcat	cagtgtgtcc	660
tatgcccattg	tggtagctgc	tgtgctgcaa	atccgctctg	ctgagggcag	aaagaaggcc	720
ttctccacat	gtggctccca	cctcactgtg	gtgggcattc	tctatgggac	aggtgtcttc	780
agctacatga	ggctgggttc	agtggaatct	tcagacaagg	ataagggggg	tgggggtttc	840
atgactgtga	tcaaccccat	gctgaaccca	cttatctaca	gcctcagaaa	tactgatgtt	900
cagggcgctc	tgtgtcagct	acttgtgggg	gagcgatcac	tgacc		945

&lt;210&gt; 335

&lt;211&gt; 950

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g184 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 335

atgctaagga	atggcagcat	agtgacggaa	tttatcctcg	tgggctttca	gcagagctcc	60
acttccacac	gagcattgct	ctttgcectc	ttcttggccc	tctacagcct	caccatggcc	120
atgaatggcc	tcattcatctt	tatcacctcc	tggacagacc	ccaagctcaa	cagcccccattg	180
tacttcttcc	tgggctctcg	tctctcctgg	atgtctgctt	catcaccact	accatcccac	240
agatgttgat	ccacctcgtg	gtcagggacc	acattgtctc	ctttgtatgt	tgcatgaccc	300
agacgtactt	tgtcttctgt	gttgggtgtg	ccgagtgcac	cctcttggct	ttcatggcct	360
atgaccgtta	tgttgctatc	tgctacccac	ttaactatgt	cccgatcata	agccagaagg	420
tctgtgtcag	gcttgtggga	actgacctgt	tctttgggct	gatcaatggc	atctttctcg	480
agtatatattc	attccgagag	cccttccgca	gagacaacca	catagaaaagc	ttcttctgtg	540
aggcccccat	agtgattggc	ctctcttgtg	gggacctca	gtttagtctg	tgggcaatct	600
ttgccgatgc	catcgtggta	attctcagcc	ccatgggtgct	cactgtcact	tcctatgtgc	660
acatcctggc	caccatcctc	agcaaaagcct	cctcctcagg	tggggggaag	actttctcta	720
cttgtgcctc	tcacctgact	gtggtcatct	ttctctacac	ttcagctatg	ttctcttaca	780
tgaacccccca	cagcacacat	gggcctgaca	aagacaaaacc	ttctccctc	ctgtacacca	840
tcattacccc	catgtgcaac	cccatcattt	atagtttccg	caacaaggaa	attaaggagg	900
ccatgggtgag	ggcacttgga	agaaccaggc	tggcccagcc	acagtctgtc		950

&lt;210&gt; 336

&lt;211&gt; 972

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g185 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 336

atgtttttact	tctttccccc	tttgcagatc	ttggcagaaa	acctcaccat	ggtcaccgaa	60
ttcctgtttgc	tgggtttttc	cagccttggg	gaaattcagc	tggccctctt	tgtagttttt	120
ctttttctgt	atctagtcat	tcttagtggc	aatgtcacca	ttatcagtgt	catccacctg	180
gataaaaagcc	tccacacacc	aatgtacttc	ttccttggca	ttctctcaac	atctgagacc	240
ttctacacct	ttgtcattct	acccaagatg	ctcatcaatc	tactttctgt	ggccaggaca	300
atctccttca	actgtttgtc	tcttcaaatg	ttcttcttcc	ttgggttttg	cattaccaac	360
tgccctgctat	tgggtgtgat	gggttatgat	cgctatgctg	ccatttgtca	ccctctgcat	420
taccccatc	ttatgagctg	gcaggtgtgt	ggaaaacttg	cagctgcctg	tgcaattggg	480
ggcttcttgg	cctctcttac	agtagtaaat	ttagttttca	gcctcccttt	ttgtagcgcc	540
aacaaagtca	atcattactt	ctgtgacatc	tcagcagtca	ttcttctggc	ttgtaccaac	600
acagatgtta	acgaatttgt	gatattcatt	tgtggagtct	ttgtacttgt	ggttcccttt	660
ctgtttatct	gtgtttctta	tctctgcatt	ctgaggacta	tcctgaagat	tcctcagct	720
gagggcagac	ggaaagcggt	ttccacctgc	gcctctcacc	tcagtgttgt	tattgttcat	780
tatggctgtg	cttcccttcat	ctacctgagg	cctacagcaa	actatgtgtc	caacaaagac	840
aggctgggtga	cggtgacata	cacgattgtc	actccattac	taaaccccat	ggtttatagc	900
ctcagaaaca	aggatgtcca	acttgcctatc	agaaaagtgt	tgggcaagaa	aggttctcta	960

aaactatata at

972

&lt;210&gt; 337

&lt;211&gt; 982

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g186 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 337

aagcttcaat	taaacaattt	tactgaagtc	accatgttta	tattaataag	cttcacagaa	60
gaatttgatg	tgcaagtctt	cctatTTTTT	ttatTTTTtag	caatctatct	attcactcta	120
ataggcaatt	tagggctggt	tgtaccgatc	attggggatt	tctggcttca	cagcccaatg	180
tactattttc	ttgggtgttt	atcattcttg	gatgtctgct	attctacagt	tgtcactcca	240
aaaatgttgg	tcaatttctt	ggcaaaaaat	aaatctatTT	catttcttgg	atgtgcaaca	300
cagatgtttc	ttgcttgtac	ttttggaacc	acagaatgct	ttctcttggc	tgcaatggct	360
tatgatcgct	atgtagccat	ctacaaccct	ctcctgtatt	cagttagcat	gtcaccacaga	420
gtctatgtgc	cactcatcac	tgcttcttat	gttgctagca	ttttacatgc	tactatacat	480
acagtggcta	catttagcct	gtccttctgt	ggatccaatg	aaattaggca	tgtcttttgt	540
aataatgcct	cctctgcttg	ctatttcttg	ttctgacact	cacgtaatcc	agcttctatt	600
cttctacttt	gtgggctcta	ttgagatagt	cactatcctg	attgtcctga	tctcctatgg	660
ttttattctg	ttggccattc	tgaagatgca	gtctgctgaa	gggaggagaa	aagtcttctc	720
tacatgtgga	gtcacctaa	ctggagtgc	aatttatcat	gggacaatcc	tcttcataga	780
tgtgagacca	agttccagct	acacttcgga	caatgacatg	atagtgtcaa	tattttatac	840
cattgtgatt	cccatgctga	atcccatcat	ctacagtttg	cggaacaaag	atgtaaagga	900
ggcaatcaaa	agattgcttg	tgagaaattg	gttcataaat	aagttatagt	tttaaaattg	960
agtaaagttg	caaataatat	tg				982

&lt;210&gt; 338

&lt;211&gt; 962

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g187 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 338

atggatagag	taaataattc	tgcggtatct	aaatttgtat	tgatttggac	tttccaagcc	60
tccttgggag	atgcatcttt	ttcttttttg	gttcttctct	gtgttctaca	tggaattat	120
cctggaaaat	ctcttcattg	tggtcacagt	aattattgac	tctcatttaa	attccccagg	180
tactgcctac	tgccaacat	ttatcttctt	gatctgggtc	ttctcctaca	gttctgactt	240
tttactaac	tgagcatca	tttcttttcc	aagatgcate	atacagatat	ttttcatttg	300
tgtcatgcgt	aaaaattgag	atgggtgctgc	tcataaccat	ggcatagagc	aggtacactg	360
ccaatctgta	agcctcccca	ttacctgacc	acaatgaacc	ccaaaatgtg	tgtttccttt	420
gttggaggca	tcctggatag	tcaggataat	ccatgctgta	tctcagtttg	tttttgccat	480
aaacttgcc	ttttgtggcc	ctaataagag	aggtagtttt	cactgtgatt	ttccttatgt	540
catgaaactt	gcttgtgtag	acacttacaa	actagagggt	gtagtcactg	ctaacagtgg	600
gcttatatcc	atagctacct	gtttcttatt	aataatatcc	tatattttca	tttcggtaac	660
cgtctagaat	ccttcttcag	gagacttatc	taaagcattt	gtgtcatggt	agatcacatc	720
acagtaggga	ttttgttttt	tatgccatgt	atatttctgt	atgtgtagcc	tttgcctaaa	780
acaacacatg	attaatatTT	gttcattggt	ccttttgcta	tcaccctgtg	ctaggatcta	840
cacattaaga	aacaaagaca	tgaacgtctc	catggaaaga	ctgggaaaat	ggattgcagg	900
ttctagcagg	atgtcataat	aaatgggtgca	tatccagagt	gcaagatgat	tcagtctcac	960
ca						962

&lt;210&gt; 339

&lt;211&gt; 972

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g188 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 339

atgaccacca	taattctgga	agtagataat	catacagtga	caacacgttt	cattcttctg	60
gggtttccaa	cacgaccagc	cttccagctt	ctctttttct	ccattttcct	ggcaacctat	120
ctgctgacac	tgctggagaa	tcttcttata	atcttagcta	tccacagtga	tgggcagctg	180
cataagccca	tgtacttctt	cttgagccac	ctctccttcc	tggagatgtg	gtatgtcaca	240
gtcatcagcc	ccaagatgct	tgttgacttc	ctcagtcagt	acaagagtat	ttccttcaat	300
ggctgcatga	ctcaacttta	cttttttgtg	acctttgtct	gcactgagta	catccttctt	360
gctatcatgg	cttttgaccg	ctatgtagcc	atttgtaate	cactacgcta	cccagtcata	420
atgaccaacc	agctctgtgg	cacactggct	ggaggatgct	ggttctgtgg	actcatgact	480
gccatgatta	agatgggttt	tatagcacia	cttcaactat	gtggcatgcc	tcagatcaat	540
cactactttt	gtgatatact	tccactcctt	aacgtctcct	gtgaggatgc	ctcacaggct	600
gagatgggtg	acttcttctt	ggccctcatg	gtcattgtcta	ttcctctttg	tgttgtgggtg	660
gcacccatcg	ctgctatcct	tgccaccatc	ctcaggatcc	cttctgtctc	gggcccgcac	720
aaggcattct	ccacctgtgc	ctcccacctg	accgtcgtaa	ttctcttcta	ttccatgaca	780
cttttcacct	atgcccgtcc	caaactcatg	tatgccatca	attccaacaa	agtgggtatct	840
gttctctaca	ctgtcattgt	tccactcctc	aaccccatca	tttactgtct	gaggaaccat	900
gaagtaaagg	cagccctcag	aaagaccata	cattgcagag	gaagtggggc	ccagggaagt	960
gggctttca	gt					972

&lt;210&gt; 340

&lt;211&gt; 969

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g189 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 340

atgatgggac	aaaatcaaac	cagcatctca	gacttctctg	tcctgggcct	gcccattccaa	60
ccagagcagc	aaaacctgtg	ctatgccctg	ttcttggcca	tgtatcttac	cacctctctg	120
gggaacctcc	tcattcattgt	cctcattoga	ctggactccc	atctccacac	gcctgtgtat	180
ttgtttctca	gcaacttgct	cttctctgac	ctctgtcttt	cctcagtcac	aatgcccaca	240
ttgctgcaga	acatgcagaa	ccaagaccca	tccatcccct	atgcagactg	cctgacccaa	300
atgtacttct	tcttgtatct	ttcggatcta	gagagcttcc	tccttgtggc	catggcctat	360
gaccgctatg	tggccatctg	cttccccatg	cactacaccg	ccatctgctt	cctcctgcac	420
tacaccgcca	tcattgagccc	catgctctgt	ctctccgtgg	tggcgctgtc	ctgggtgctg	480
accaccttcc	atgccatggt	acacacttta	ctcatggcca	ggttgtgttt	ttgtgcagac	540
aatgtgatcc	cccacttttt	ctgtgatatg	tctgtctctg	tgaagctggc	ctgctctgac	600
actcgagtta	atgaatgggt	gatatttatc	atgggagggc	tcattcttgt	catcccatcc	660
ctactcatcc	ttgggtccta	tgcaagaatt	gtctcctcca	tcctcaaggt	cccttcttct	720
aagggtatct	gcaaggcctt	ctctacttgt	ggctcccacc	tctctgtggg	gtcactgttc	780
tatgggaccg	ttattgggtc	ctacttatgc	ccatcagcta	atagttctac	tctaaaggac	840
actgtcatgg	ctatgatgta	cactgtgggt	accctatgc	tgacccctt	catctacagc	900
ctgaggaaca	gagacatgaa	gggagccctg	gaaagggtca	tttgtaaaag	gaaaaatccc	960
ttccttcta						969

&lt;210&gt; 341

&lt;211&gt; 933

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g190 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 341

atgggtagaa	gaaataacac	aaatgtgcct	gacttcatcc	ttacgggact	gtcagattct	60
gaagaggctc	agatggccct	ctttatacta	tttctcctga	tataccta	tactatgtctg	120
ggcaatgtgg	ggatgatatt	gataatccgc	ctggacctcc	agcttcacac	tcccatgtat	180

tttttccctta	ctcacttgctc	atttattgac	ctcagttact	caactgtcat	cacacctaaa	240
accttagcga	acttactgac	ttccaactat	atttccctca	tgggctgctt	tgcccagatg	300
ttcttttttg	tcttcttggg	agctgctgaa	tgttttcttc	tctcatcaat	ggcctatgat	360
cgctacgtag	ctatctgcag	tcctctacgt	taccaggtta	ttatgtccaa	aaggctgtgt	420
tgcgctcttg	tcactgggcc	ctatgtgatt	agctttatca	actcctttgt	caatgtgggt	480
tggatgagca	gactgcattt	ctgcgactca	aatgtagttc	gtcacttttt	ctgcgacacg	540
tctccaattt	tagctctgctc	ctgcatggac	acatacgaca	ttgaaatcat	gatacacatt	600
ttagctgggt	ccaccctgat	ggtgtccctt	atcacaatat	ctgcatccta	tgtgtccatt	660
ctctctacca	tcctgaaaat	taattccact	tcaggaaagc	agaaagcttt	gtctacttgt	720
gcctctcatc	tcttgggagt	caccatcttt	tatggaacta	tgatttttac	ttatttaaaa	780
ccaagaaagt	cttattcttt	gggaagggat	caagtggctt	ctgtttttta	tactattgtg	840
attcccatgc	tgaatccact	catttatagt	cttagaaaca	aagaagttaa	aaatgctctc	900
attagagtca	tgcagagaag	acaggactcc	agg			933

&lt;210&gt; 342

&lt;211&gt; 915

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g191 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 342

atggtgactg	aattcatttt	tctgggtctc	tctgattctc	aggaactcca	gaccttccta	60
tttatgttgt	tttttgtatt	ctatggagga	atcgtgtttg	gaaaccttct	tattgtcata	120
acagtgggat	ctgactccca	ccttcaactc	cccatgtact	tctgtctagc	caacctctca	180
ctcattgatc	tgctctctgc	ttcagtcaca	gcccccaaga	tgattactga	ctttttcagc	240
cagcgcaaag	tcattctctt	caagggctgc	cttggttcaga	tatttctcct	tcacttcttt	300
ggtggggagt	agatgggtgat	cctcatagcc	atgggctttg	acagatatat	agcaatatgc	360
aagcccttac	actacactac	aattatgtgt	ggcaacgcac	gtgtcggcat	tatggctgtc	420
acatggggaa	ttggctttct	ccattcggtg	agccagttgg	cgtttgccgt	gcacttactc	480
ttctgtggtc	ccaatgaggt	cgatagtttt	tattgtgacc	ttcctagggt	aatcaaactt	540
gcctgtacag	atacctacag	gctagatatt	atggtcattg	ctaacagtgg	tgtgtctact	600
gtgtgttctt	ttgttcttct	aatcatctca	tacactatca	tcctaataac	catccagcat	660
cgccctttag	ataagtcgct	caaagctctg	tccactttga	ctgctcacat	tacagttagt	720
cttttgttct	ttggaccatg	tgtctttatt	tatgcctggc	cattccccat	caagtcatta	780
gataaattcc	ttgctgtatt	ttattctgtg	atcaccctc	tcttgaacct	aattatatac	840
acactgagga	acaaagacat	gaagacggca	ataagacagc	tgagaaaatg	ggatgcacat	900
tctagtgtaa	agttt					915

&lt;210&gt; 343

&lt;211&gt; 936

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g192 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 343

atggagcggg	tcaatgagac	tgtgggtgaga	gaggtcatct	tcctcggtct	ctcatccctg	60
gccaggctgc	agcagctgct	ctttgttata	ttcctgtctc	tctacctgtt	cactctgggc	120
accaatgcaa	tcattcattt	caccattgtc	ctggacaggg	cccttcata	ccccatgtac	180
ttcttccctg	ccatcctctc	ttgtctctgag	atttgcata	ccttcatcat	tgtacccaag	240
atgctgggtg	acctgctgtc	ccagaagaag	accatttctt	tcctgggctg	tgccatccaa	300
atgttttcc	tcctcttcc	tggtgtctct	cactccttct	tgctggcagt	catgggttat	360
gatcggtaca	tagccatctg	taaccactg	cgctactcag	tgctaattgg	acatgggggtg	420
tgtatgggac	tagtggctgc	tgccgtgtgc	tgtggcttca	ctgttgacac	gatcatcaca	480
tccttggtat	ttcacctgce	tttttattcc	tccaatcaac	tacatcactt	cttctgtgac	540
attgctcctg	tcctcaagct	ggcatctcac	cataaccact	ttagtcagat	tgtcatcttc	600
atgctctgta	cattgggtcct	ggctatcccc	ttattgttga	tcttgggtgc	ctatgttcac	660
atcctctctg	ccatacttca	gtttccttcc	acactgggta	ggtgcaaagc	tttttctacc	720

tgtgtatctc	acctcattat	tgctactgtc	cactatggct	gtgcctcctt	tatctactta	780
aggcctcagt	ccaactactc	ctcaagccag	gatgtctctaa	tatcagatc	ctacactatt	840
ataactccat	tgttcaaccc	aatgatttat	agcttgagaa	ataaagagtt	caaatcagct	900
ctttgtaaaa	ttgtgagaag	aacaatttcc	ctgttg			936

&lt;210&gt; 344

&lt;211&gt; 732

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g193 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 344

atgatgattt	cctcagatga	agaaaatgat	acaaatatga	tggaatttat	tctggtagga	60
ctgtccagac	agcctgcac	tcagctactc	ttcttttagg	caatattggt	catctactct	120
gtcaccctgg	ttggtaatat	tctcatcatt	gttattatcc	agattgattc	ccatcttcaa	180
acccccatgt	acttctttct	catacaagta	tccttcttag	atatctgctc	cacacccacg	240
gttctgggtga	actgctagaa	ggacttttcca	agtgtatcct	atagtggctg	cttattctaa	300
atgactatct	ttctttactt	aggggtgacg	gagtgtgttt	tttttttggt	ctgttttgag	360
tgttttctta	ttgctgttat	ggcctatgac	aggtttggtg	ccatctcaaa	acccttggtg	420
tacccattca	ttatcaatag	caatgtttgc	atctggatgg	tggcaggagt	ttgggcccac	480
cctggctcgca	ccaatccaat	tctgtggcca	caatgtagtc	aacattttac	atgtgagctc	540
caagtaattt	tcaaactcac	ttgctctcct	gtactagtca	aagagatcca	gtgattcatg	600
attccagggt	gtacattata	ggcattgtat	cagcattaag	tgtgctccta	cagttaagct	660
cgccagcaaa	cccatcccag	gagctgagag	gcatacaatt	agggcataag	gtgagggtatt	720
atcgggggtac	ac					732

&lt;210&gt; 345

&lt;211&gt; 919

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g194 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 345

acagctggca	gcaatttcac	tgagggtgact	gtcttcatcc	tctctggata	tgcaaatac	60
cctgaattac	aagtcagttt	tttcttgatg	tttctcttca	tttatctatt	cactattttg	120
ggaaacctgg	gactgatcat	gttaatcaga	atggattctc	agcttcacac	ccctatgtac	180
tttttcttca	gcaatttagc	attcattgac	atattttact	cctcttccgt	aacacctaag	240
acattggcga	atttccaatc	caatcagaga	tccatctcct	ttgttggtcg	ctttgttcaa	300
atgtactttt	ctgttggtat	ggtgtgtact	gagtgtttcc	tgctgggac	aatggcctat	360
gattgctatg	tagcaatctg	gaatccctca	ttcagtagtc	atttcttaga	aagcgtgcaa	420
ctggctggga	gtaatgtcat	acacgatagg	tttccaaaat	tctctgggat	ctgtctgtgt	480
gataagtggg	tttgttctgt	gattccagca	tcaatctttt	tttctgtga	caccacagct	540
cttttagcac	tgctctgtgt	agatgcattc	agcacagaaa	tggtgagctt	tgcccttagct	600
ggattcactc	ttcttggtct	tatccttata	atcacagtca	cttatatcgc	catcacctca	660
gccatcctga	agaaccagtg	ggcagcagga	tggcagaagg	ccttctccac	ctgcgcattc	720
cacctcatgg	gttaactatc	ttctatgggt	ccctgatttt	cacctatttg	caactggata	780
aaacatcatc	cctgatccac	gcacagttgg	cattttgtatt	ctatatgact	gtcattccca	840
tgctgaatcc	actcatctag	agtctgagga	acaaagatgt	aaaaaatgct	ctttgagagt	900
catacataga	aaacttttt					919

&lt;210&gt; 346

&lt;211&gt; 753

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g195 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 346

atggccaatt	cttcctctgt	cactgagttc	ttagtgctgg	gcttctctag	ccttggggaa	60
ttgcagcttg	tcctctttgc	agtctttctc	tgctcttatt	tgattatctt	gagtggaaac	120
atcatcatca	tctcagtcac	tcatttggat	cacagcctcc	acacacccat	gtacttcttt	180
ctaggatatt	tttctatctc	tgaaatcttc	tacacaactg	ttattctgcc	caagatgctt	240
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ttcttctcgc	gttttgctgt	cactaactgt	ctgcttctgg	gagtgatggg	ttatgatcgt	360
tatgctgcca	tctgtcagcc	tttgcaatac	gctgtttctca	tgagctggag	agtatgtgga	420
caactgatag	caacttgtat	tattagtggc	ttcctaatat	ctctgggtggg	aacaactttt	480
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ggggtcttgg	tgcttgttgt	gcccttgata	tttatctgca	tttctatggg	cttcattgtc	660
cgcaccatcc	tgaagatccc	atcagctgaa	ggcaaacaaa	aagccttctc	cacctgtgct	720
tcccatctca	ttgtagtcat	tgtccattat	ggt			753

&lt;210&gt; 347

&lt;211&gt; 941

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g196 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 347

atgggtgggc	taaaaagaga	caatgcctct	gagatgactg	aactcatcct	tggtggattt	60
gccaacaccc	ctgaaatcca	gactgccttc	ttcttggaa	tactgttttt	ctactagtca	120
cagcgtttga	gaacatcctt	atcggttctg	tagtgagatg	agattctcga	cttcatactc	180
ctatgggatt	tttttttctt	cagtacctta	tcctcccttg	aaatgtgtta	ctccatcagc	240
tgggagctat	aagtcttggc	tcaatgcac	aaggacttcc	ccaccatctc	ctataacagc	300
tggtctgttc	agatgatcac	acacctcttt	ctggggatga	cagtgtctcc	tccttgtctg	360
catggcttac	aacaggtttg	ttgaaatctc	ttatctcttc	cattacacta	ttattatgag	420
caatcggttc	tgtatacagt	tgcccttggg	aatctggacc	catgccttct	tagtagcagt	480
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caaaggggaa	ccaggaagag	gataaagttg	tctcaaaact	ttatggagca	gttactccca	840
tgttaaatcc	cccaattttac	attcagagaa	ataaggatat	aaaagggtgca	cttagaaaagt	900
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&lt;210&gt; 348

&lt;211&gt; 957

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g197 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 348

atgaatcatg	tggtaaaaa	caatcacacg	gcagtgacca	agggtgactga	atttattctc	60
atggggatta	cagacaaccc	tgggctgcag	gctccactgt	ttggactctt	cctcatcata	120
tatctgggtca	cagtgtatgg	caatctgggc	atgggttatct	tgacctactt	ggactccaag	180
ctacacaccc	ccatgtactt	tttctttaga	catttgtcaa	tcactgatct	tggttactcc	240
actgtcattg	ccccgaagat	gttagtaaac	ttcatagtgc	acaaaaacac	aatttctttac	300
aattggatat	ccactcagct	agcattcttt	gagattttca	tcattctctga	gctctttatt	360
ctatcagcaa	tggcctatga	tcgctacgta	gccatctgta	aacctcttct	gtacgtgatc	420
atcatggcag	agaaagtact	ttgggtgctg	gtaattgttc	cctatctcta	tagcacgttt	480
gtgtcactat	ttctcacaat	taagttattt	aaactgtcct	tctgtggctc	aaacataatc	540
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ttgttattta	tttacttgca	acccaagtcc	agtcatactt	tggtatttga	taaaatggcc	840
tcagtgtttt	ataccctggt	gattcctatg	ctgaatccgt	tgatctacag	cctaaggaac	900
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&lt;210&gt; 349

&lt;211&gt; 471

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g198 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 349

tttttaaaaa	tgagattaaa	ggaattaatg	taagatagaa	ccataatgga	ttattggagg	60
gaaggtaggc	acatttaggg	gatgttcttg	gcctttccgt	ttggctgacc	tatcccaaaa	120
cttttcctct	gggtctctat	cagagacatg	gcagtaacct	ggatggacca	taggcacgag	180
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tgtctgaagc	tggtagtcca	tgacaggctc	tgacatgtgc	tgagcttgct	c	471

&lt;210&gt; 350

&lt;211&gt; 951

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g199 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 350

atggggccaaa	agaatctaac	agtgccttact	gaattaattc	tgatggaaat	cacaaggcgg	60
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agatactggg	aaactttggt	gtggctcaaa	atgccattcc	ctgttatgca	tgtaccatgc	300
agatggcctt	cttcattatg	ttcattatct	gtgaactttt	cgtctcatca	gccatggcct	360
atgaccacta	tgtggacatc	catagccttc	tgccataaaa	tgttatgtct	caggaacttt	420
gtcatgtgct	ggtgggtattc	cataccttta	tagtaccttt	caagctctga	tggtcactat	480
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attttcagta	cttaatttga	tattctttct	tctggtagtc	ctaattgtct	ccatgctgat	660
tctattaact	gtttgttgaa	tgcattctgc	agagagcagt	aaaaaaacttt	cttcacgtat	720
gtttcttctg	tgatagtggg	ggttgtgttc	tgtgggtttc	tatactttat	gtacttgcag	780
ctcaaattca	gttccttttt	ttttgataat	aataaaatga	cctccatggt	ttcctcttta	840
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gccttctata	gtttttttat	gaagcagtga	aaacttttga	atttaattgt	c	951

&lt;210&gt; 351

&lt;211&gt; 906

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g200 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 351

atgacgaact	tgaatgcac	acaggccaac	caccgttaact	tcattctgac	aggtatccca	60
------------	-----------	------------	-------------	------------	------------	----

ggaacgccag	acaagaaccc	atgggtggcc	ttccccctgg	gatttctcta	cacactcaca	120
ctcctgggaa	atgggtacat	cctagctgtc	atcaagggtg	agccaagtct	ccatgagccc	180
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ccctccatgc	tcagcatcta	ctggtttaat	gccccctaga	ttgtttttga	tgcattgcac	300
atgcagatgt	tcttcatcca	tgtatttgga	atagtagaat	caggagtcct	agtgtccatg	360
gcctttgaca	gatttgtggc	catccgaaac	ccattacact	atgtttccat	cctcactcac	420
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ggcctcatcg	tcgtcatctt	cacactgggg	ctcgatgttc	tcctcactct	actgtcttat	660
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gatataacc	tactgtctcc	gcctgtgcta	aacccattg	tctacagtgt	gaagaccaag	900
caaatt						906

&lt;210&gt; 352

&lt;211&gt; 971

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g201 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 352

cacacagagc	cacggaatct	cacaggtgtc	tgagaattcc	tcctcctggg	actctcagag	60
gatccagaac	tgcagccggg	cctcgctttg	ctgtccctgt	ccctgtccat	gtatctgggc	120
acagtgtgta	ggaacctgct	cagcatcccc	gctgtcagct	ctgactccca	cctccacacc	180
cccacgtact	tcttctcttc	catcctgtgc	tgggctgaca	tcggtttcac	ctcggccacg	240
gttcccaaga	tgattgtgga	catgcagtgg	tatagcagag	tcattctctca	tgcgggctgc	300
ctgacacaga	tgtctttctt	ggctcttttt	gcatgtatag	aaggcatgct	cctgactgta	360
atggcctatg	actgctttgt	aggcatctat	cgcctctgc	actaccagct	catcgtgaat	420
cctcatctct	gtgtcttctt	tgttttggtg	tcctttttcc	ttagcctgtt	ggattcccag	480
ctgcacagtt	ggattgtggt	acaattcacc	atcatcaaga	atgtggaaat	ctctaatttt	540
gtctgtgacc	cctctcaact	tctcaaacct	gcctcttatg	acagcgtcat	caatagcata	600
ttcatatatt	tcgatagtac	aatgtttggt	tttcttctca	tttcagggat	cctttcatct	660
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atgtacctgg	cttcagctat	gtcaccaacc	cccagggaatg	gtgtgggtggt	gtcagtgatg	840
taagctgtgg	tcacccccat	gctgaacctt	ttcatctaca	gcctgagaaa	cagggacata	900
caaagtgtcc	tgcggagggt	gcgcagcaga	acagtcgaat	ctcatgatct	gttccatcct	960
ttttctggtg	t					971

&lt;210&gt; 353

&lt;211&gt; 431

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g202 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 353

ttctctgtta	caggtatcag	cgttgtggat	tgtctgtttct	agtccacagt	tattcctgaa	60
atgtctttca	gttgccaggt	acagcacttg	gtccataacc	caaaggggat	actattatta	120
ttattattat	tattattatt	attattatta	acattttttt	aaaaatttct	tttcatagaa	180
tgcatttttg	tattagagat	tcctctagt	ggaaaaataac	agtttattac	ttatagttct	240
atattttgtg	acagatcggt	ttagaacaag	taaaacacat	ttgagaatga	agtctcagtt	300
tagaatttgt	aatattttga	tacttctaca	agggggacct	tgcccttaaa	cagaactttg	360
ctatactcag	aagattcca	agcttttctt	cctaggattt	agaaattcat	aatgtgagat	420
atcagcattt	c					431

<210> 354  
 <211> 938  
 <212> DNA  
 <213> Unknown (H38g203 nucleotide)

<220>  
 <223> Synthetic construct

<400> 354  
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 atttataaatt tactatttaa cttatcactt aaattgaatc cagatattca aaacactggc 180  
 cattctttctt actatgatgt ttttgtaatg ttttattcca ccttgactgt gatagtcccg 240  
 tttgtaatac caagaggatc agatcatttt ttgttctaga aagataaaaa agttcctgaa 300  
 agagtggagaa aatacacttt tgaacccgaa acaaagtctc attttctaag attttggcat 360  
 aaaatatacc gtgtaccttt tgctcttaaa acacttcgtt gttataacat tcaattttta 420  
 ggtacttatg agtggcaggc tatgggacta gttagtctct gtctagaatc tctctataaa 480  
 ccttcaagaa ataatatgta ttttaaaaaa atcttaccat tttttcagtg tacaatatac 540  
 aatttcttac attgatccat ttattaactc attagtattt ttgtgggttt cactgctttt 600  
 atacaagctt ttgcttttat gatcatcata gtttcttata cccaagtcct ctttgcccta 660  
 ctgaaaaaga attctgagaa gggcagaagc aaaagcttcc tcatgtgcag tgcccacctg 720  
 ctctctgtct ctttgttcta tagcagtgtc ttcttcatgt atgggtgccc cagggtctggc 780  
 ccagattaac agtggaatga aatgtatttt ccgttctaca tgattataat tctctgcag 840  
 actcctttat ttacagtatg aaaaacaaag aagtttttagg tacacttaga acaatgataa 900  
 agaaatattt ttggagaaca ctttcataat tctttcca 938

<210> 355  
 <211> 759  
 <212> DNA  
 <213> Unknown (H38g204 nucleotide)

<220>  
 <223> Synthetic construct

<400> 355  
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 cccaagatgc tggtctggctt tctcttgggt agtaggatta tctccttttg gggctgtgta 120  
 atccaactat tttctttcca tttcctgggc tgtactgagt gcttccttta cacactcatg 180  
 gcttatgacc gtttcttgc catttgtaag cccttacact atgctaccat catgacccac 240  
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 caaacaagtt ttgtattccg gctgcccttc tgtggcccca atcgggtcga ctacatcttc 360  
 tgtgacattc ctgccatgct gcgtctagcc tgcgccgata cggccatcaa cgagctgggtc 420  
 acctttgcag acattggctt cctggccctc acctgcttca tgctcatcct cacttccat 480  
 ggctatattg tagctgccat cctgcgaatt ccgtcagcag atgggcccgc caatgccttc 540  
 tccacttgtg ctgccacct cactgtttgtc attgtttact atgtgccctg caccttcatt 600  
 tacctgcggc cttgttcaca ggagcccctg gatgggggtg tagctgtctt ttacactgtc 660  
 atcactccct tgcttaactc catcatctac acactgtgca acaaagaaat gaaggcagca 720  
 ttacagaggc tagggggcca caaggaagtg cagcctcac 759

<210> 356  
 <211> 933  
 <212> DNA  
 <213> Unknown (H38g205 nucleotide)

<220>  
 <223> Synthetic construct

<400> 356  
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 ccgcaactgg agcccatcct gtttgtcttt atttttattt tctactccct aactctcttt 120  
 ggcaacacca tcatcatcgc tctctcctgg ctagaccttc ggctgcacac acctatgtac 180

ttctttctct	ctcatctgtc	cctcctggac	ctctgettea	ccaccagcac	cgtgccccag	240
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gaccgctatg	ctgctgtctg	tgttccactc	cactacatgg	ccatcatgca	cccccatctc	420
tgccagaccc	tggctatcgc	ctcctggggg	gcgggtttcg	tgaactctct	gatccagaca	480
ggtctcgcga	tggccatgcc	tctctgtggc	catcgactga	atcacttctt	ctgtgagatg	540
cctgtatttc	tgaagttggc	ttgtgctggc	acagaaggaa	cagaggccaa	gatgtttgtg	600
gcccagtgca	tagtcgtggc	tgttcctgca	gcacttattc	taggtcctta	tgtgcacatt	660
gctcatgcag	tgttgagggt	gaagtcaacg	gctgggcgca	gaaaggcttt	tgggacttgt	720
gggtcccacc	tcctagtagt	tttccttttt	tatggctcag	ccatctacac	atatctccaa	780
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acccccattc	tcaatcctct	catttatata	ctaagaaaca	aggacgtgaa	gggggctctg	900
tggaaagtac	tatggagggg	cagggactca	ggg			933

&lt;210&gt; 357

&lt;211&gt; 934

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g206 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 357

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aaggggatgg	aaaatgtgct	ttttgtctta	tttctggcct	tctacctctt	caccttgctg	120
gggaacctac	tcattcttct	ggccgtcctc	actttctcca	acctccacac	ccccatgtat	180
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aaaggtgctc	attcaaggag	tacataattg	tgga			934

&lt;210&gt; 358

&lt;211&gt; 892

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g207 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 358

gtgcgtgggt	ccaagcagct	gcggaatggg	accctagtgt	cccagtttct	tctgaaaggc	60
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gattctatgc	agctatctgc	cagccattgc	actactttgt	cctcgtgggc	cgactgaccc	420
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cccatctcgc tatgatcggg cttttctacg tcacttcagt cccctgctac atccttccca 780
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acatgctaaa ccccatcttc cccagcatgc tgggatgaca ggcattgagcc ac 892

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&lt;210&gt; 359

&lt;211&gt; 936

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g208 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 359

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atgggtgtaa aaaaccattc cacagtgcact gagtttcttc ttccaggatt aactgaacaa 60
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tatttcctga gtagtttgct ttttttagat ttctgctatt cttctgtcat taccctaaa 240
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gtcattgggtg gatttaacat ggtggccaca agcctaacaa tcattatttc atatgctttt 660
atcctcacca gcactctgcg catccactct aaaaaggcca ggtgcaaagc gtttagcacc 720
tgtagctccc acctgacagc tgttcttatg ttttatgggt ctctgatgtc catgtatctc 780
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gtgattctca tgttgaatcc cttgatatat agtctgagga acaatgaagt aagaaatgct 900
ctgatgaaac ttttaagaag aaaaatatct ttatct 936

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&lt;210&gt; 360

&lt;211&gt; 753

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g209 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 360

```

atgtactatt tctcagcca cctggccttt gttgaccttt gttactctc tgctattaca 60
ccgaagatga tgggtgaattt tgtgtggaa cgcaacacca ttcccttcca tgcttggtgca 120
acccaactgg gttgttttct cacttcctg atcactgagt gtttccctct agcctccatg 180
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tgtgatgacc tccccttctt agctctgtcc tgctcagaca cacacatgaa ggaaattctg 420
atatttgctt ttgctggctt tgatatgac tcttctctt ccattgtcct cactcctac 480
atctttatta ttgccgctat cctaaggatc cgctctactc aggggcaaca caaagccatt 540
tccacctgtg gctcccatat ggtgactgtc actattttct atggcacact gatctttatg 600
tacctacagc ccaaatcaaa tcaactcctg gacacagaca agatggcttc tgtattttac 660
acagtgggtg tccccatggt aaacccctta atctatagtc taaggaacaa agaagtgaag 720
gatgcctcaa agaaagcctt ggataaaggt tgt 753

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&lt;210&gt; 361

&lt;211&gt; 933

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g210 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 361

atgtccaacg	ccaccctact	gacagcgttc	atcctcaagg	gccttcccc	tgccccaggg	60
ctggacgccc	ccctcttttg	aatcttctctg	gtggtttacg	tgctcactgt	gctggggaac	120
ctctcatcc	tgctggtgat	cagggtggat	tctcacctcc	acacccccat	gtactacttc	180
ctcaccaacc	tgctcttcat	tgacatgtgg	ttctccactg	tcacggtgcc	caaaatgctg	240
atgaccttgg	tgctcccaag	cggcaggact	atctccttcc	acagctgcgt	ggctcagctc	300
tattttttcc	acttcttggg	gagcaccgag	tgtttctctt	acacagtcac	gtcctatgat	360
cgtacactgg	ccatcagtta	cccgtcagg	tacaccaaca	tgatgactgg	gcgctcgtgt	420
gcctccttgg	ccaccggcac	ttggctcagt	ggctctctgc	actctgctgt	ccagaccata	480
ttgactttcc	atttgcccta	ctgtggaccc	aaccagatcc	agcactactt	ctgtgacgca	540
ccgcccaccc	tgaaactggc	ctgtgcagac	acctcagcca	acgagatggg	catctttgtg	600
aatattgggc	tagtggcctc	gggctgcttt	gtcctgatag	tgctgtccta	tgtgtccatc	660
gtctgttcca	tcttgcggat	ccgcacctca	gaggggaggc	acagagcctt	tcagacctgt	720
gcctcccact	gtatcgtggg	cctttgcttc	tttggccctg	gtcttttcat	ttacctgagg	780
ccaggctcca	gggacgcctt	gcattggggt	gtggccgttt	tctacaccac	gctgactcct	840
cttttcaacc	ctgttggtga	cacctgaga	aacaaggagg	taaagaaagc	tctgttgaa	900
ctgaaaaatg	ggtcagtatt	tgctcagggt	gaa			933

&lt;210&gt; 362

&lt;211&gt; 827

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g211 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 362

cactcctcac	tctcttttgc	tgtcttctctg	ctgacctact	ccgtgactct	ggtagggcaac	60
ctgggcatga	cagatctgat	ctgccaatct	gcaccagctc	tgccctccac	acccccatgt	120
gttctctct	gagcgtattc	tcttctctag	acatctgcag	ttcctccatg	tgcaccccag	180
gctgctgac	cacttttctca	ccactaacca	tccatctcct	ttgcagggtg	tataatccag	240
atggccctca	tgaccttcta	tggcacaggg	gaatgtctgc	tgctggccat	cgtagcctat	300
gactgagttg	tggccatttg	ccacccttcc	ccctagcata	tcatcatgtc	caaggggact	360
gtgtgcccag	ctgggtggtg	ttacctctgc	tgtgggggtg	ctcatttcag	ctctagacag	420
gatgcattca	tctgcacctca	ccgtggccta	acatcattga	tcattactat	gttctgttac	480
attccccacc	cccatgctcc	aactggcctg	ctcagatgcc	actgtggcca	acatgatcct	540
gtttgtctct	tctgccttga	tcactatccc	taccatctca	gtcatcttgg	tctcttacac	600
ttacatcctg	gttaatcagt	gggatgaggt	ccctggatgc	ccagtgcata	gctttctcca	660
ctcgtgcctc	ccacctcact	gctcactgcc	tgttttatgg	gtttgtgttc	cttgtataca	720
ttccacccaa	ccctgaaatg	gcctcagcct	ataacaaaat	cctcttcacc	gttgtgatcc	780
ccatgctgaa	cctcctggtc	taaggcctga	gaaataaaga	tgtcaaa		827

&lt;210&gt; 363

&lt;211&gt; 937

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g212 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 363

tcagtggcca	aaggcaatca	ttcaacagtg	tatgaattta	tctcttggg	gctcacagat	60
aatgcagagc	ttcaagtcac	tctcttttgg	atattccttg	tagtatactt	agctagcttt	120
atgggtaatt	tgggtttgat	tatgctaatt	caaatacagtc	ctcagcttca	tacacccatg	180
tattttttcc	tcagccatct	ggcttttgtt	gatttttctt	ttacttcac	tggtgcccc	240
aataccttgg	taaattttct	gtgtgaagtt	aaaagtataa	catttttatgc	atgtgcccatt	300
caggatgct	gcttcatcac	attttagatt	tgtgaattat	atttgcctc	aatcatggca	360
tatgatcggg	atgttgccat	ctgtaaccct	ttactttatg	tcattctcat	tcctagaaaa	420
ctgtattaaa	ctgattgcta	gcacgtatgt	gtatggattc	actgtgggac	ttgtacagac	480
agtggcgaca	tctacttgt	ctttttgtga	ttccaacgtg	atcaaccact	tctaccatga	540
tgatgttcca	ttagtggctc	tggcctgttc	tgacactcat	gtcaaagagc	tgatgttgtt	600

aatcattgct	gggttcaata	ctctctgctc	tctagtaatt	gtgctgattt	cttatggttt	660
cattttcttt	gccatcctga	ggatacatte	tgctgaagg	agacagaaag	cattttctac	720
cagtgtcttc	catctgacct	ccatcacaa	atcttatgga	acaatcattt	ttatgtaccc	780
gcagcccaag	tcaagccatt	ccctgaatat	ggataaagtt	gcttctgtgt	ttaatgtggt	840
agtgattcct	acattaaacc	cactgatcta	tagtttaaga	aatcaggagg	taaaaaatgc	900
actaaagaga	attatagaaa	agttatgttt	ggctgtc			937

&lt;210&gt; 364

&lt;211&gt; 697

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g213 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 364

tctggtttgg	tccccaaaag	tttccctggc	tgtctcacc	aattattctt	tctgcactat	60
agctttgtgt	tggactcagc	tatactgctg	gccatggcat	ttgaccgcta	tatggccatt	120
tgctcaccct	tcgagataca	ctactattct	gactcccaaa	accattgtca	aaattgctgt	180
gggaatatgt	ttccgaagtt	tctgtgtttt	tgtoecatgt	gttttccttg	tgaatcgttt	240
acccttctgc	aggacacata	tcatttctca	cacatactgt	gagcacatag	gtgttgccca	300
gcttgccctg	gctgatatct	ccatcaatat	ctgggtgtgga	ttttgtgttc	ccatcatgac	360
ggtgatgaca	gacgtgatcc	tcattgctgt	ctcctacacc	ctcatcctct	gtgctgtctt	420
ttgcctcccc	tccaagatg	cccgtcagaa	ggccctttgc	tcctgtgggt	cccattgtctg	480
tgttatcctc	atattctata	taccagcatt	cttctccatt	cttgcccat	gctttgggca	540
taatgtccct	catacctttc	atattatgtt	tgccaacctt	tatgtaatca	ttccacctgc	600
tctcaactct	attgtctaca	gaataaagac	caagcaaate	cagaacagaa	tccttttgc	660
ctttcccaag	gggtcccagt	gataggtgcc	tgagctc			697

&lt;210&gt; 365

&lt;211&gt; 930

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g214 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 365

atgtccaacg	ccagcctact	gacagcgttc	atcctcatgg	gccttcccca	tgccccagcg	60
ctggagcccc	ccctcttttg	agtcttcctg	gtggtttacg	tgctcactgt	gctggggaac	120
ctcctcatcc	tgctgggtgat	caggggtggat	tctcacctcc	acaccaccat	gtactacttc	180
ctcaccaacc	tgctgttcat	tgacatgtgg	ttctccactg	tcacggtgcc	caaattgctg	240
atgacttttg	tgttcccaag	tggcagggct	atctccttcc	acagctgcat	ggctcagctc	300
tattttcttt	acttcctagg	gggcaccgag	tgtttctctt	acagggtcac	gtcctgtgat	360
cgctacctgg	ccatcagtta	cccgtcagg	tacaccagca	tgatgactgg	gcgctcgtgt	420
actcttcttg	ccaccagcac	ttggctcagt	ggctctctgc	actctgctgt	ccaggccata	480
ttgactttcc	atttgcccta	ctgtggaccc	aactggatcc	agcactatct	gtgtgatgca	540
ccgcccatec	tgaactggc	ctgtgcagac	acctcagcca	tagagactgt	catttttgtg	600
actgttgga	tagtggcctc	gggtgtcttt	gtcctgatag	tgctgtccta	tgtgtccatc	660
gtctgttcca	tctgctggat	ccgcacctca	gaggggaagc	acagagcctt	tcagacctgt	720
gcctcccaact	gtatcgtgg	cctttgtctc	tttggccctg	gtcttttcat	ttacctgagg	780
ccaggtccca	ggaaagctgt	ggatggagtt	gtggccgttt	tctacactgt	gctgacgccc	840
cttctcaacc	ctgttgtgta	cacctgagg	aacaaggagg	tgaagaaagc	tctgttgaag	900
ctgaaagaca	aagtagcaca	ttctcagagc				930

&lt;210&gt; 366

&lt;211&gt; 933

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g215 nucleotide)

&lt;220&gt;

## &lt;223&gt; Synthetic construct

&lt;400&gt; 366

atgagaagaa	actgcacgtt	ggtgactgag	ttcattctcc	tgggactgac	cagtcgccgg	60
gaattacaaa	ttctcctctt	cacgctgttt	ctggccattt	acatggtcac	ggtggcaggg	120
aaccttggca	tgattgtcct	catccaggcc	aacgcctggc	tccacatgcc	catgtacttt	180
ttcctgagcc	acttatacct	cgtggatctg	tgcttctctt	ccaatgtgac	tccaaagatg	240
ctggagattt	tcctttcaga	gaagaaaagc	atttcctatc	ctgcctgtct	tgtgcagtgt	300
taccttttta	tcgccttggt	ccatgttgag	atctacatcc	tggctgtgat	ggcctttgac	360
cggtagatgg	ccatctgcaa	ccctctgctt	tatggcagca	gaatgtccaa	gagtgtgtgc	420
tccttctca	tcacgggtgc	ttatgtgtat	ggagcgtca	ctggcctgat	ggagaccatg	480
tggacctaca	acctagcctt	ctgtggcccc	aatgaaatta	atcacttcta	ctgtgcggac	540
ccaccactga	ttaagctggc	ttgttctgac	acctacaaca	aggagtgtgc	aatgtttatt	600
gtggctggct	ggaacctttc	tttttctctc	ttcatcatat	gtatttccta	cctttacatt	660
ttccctgcta	ttttaagat	tcgctctaca	gagggcaggc	aaaaagcttt	ttctacctgt	720
ggctcccatc	tgacagctgt	cactatatcc	tatgcaaccc	ttttcttcat	gtatctcaga	780
ccccctcaa	aggaatctgt	tgaacagggt	aaaatggtag	ctgtatttta	taccacagta	840
atccctatgc	tgaaccttat	aattttatagc	cttagaaaata	aaaatgtaaa	agaagcatta	900
atcaaagagc	tgtcaatgaa	gatatacttt	tct			933

&lt;210&gt; 367

&lt;211&gt; 945

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g216 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 367

atgctgctat	ccaacattac	tcagtttagc	cccatattct	atctcaccag	ctttcctgga	60
ttggaaggca	tcaaacactg	gattttcctc	ccctttttct	ttatgtacat	ggttgccatc	120
tcaggcaatt	gtttcattct	gatcattatt	aagaccaacc	ctcgtctgca	cacacccatg	180
tactatctac	tatccttgct	ggccctcact	gacctggggc	tgtgtgtgtc	cacgttgccc	240
accactatgg	ggatcttctg	gtttaactcc	cagagtatct	actttggagc	gtgtcaaata	300
cagatgttct	gcatacactc	tttttccctc	atggagtcct	cagtgtcctc	catgatgtcc	360
tttgaccgct	ttgtggccat	ctgccaccct	ctgaggtatt	cggtcattat	cactggccag	420
caagtggcca	gagcaggcct	aattgtcctc	ttccggggac	ctgtggccac	tatccctatt	480
gtcctcctcc	tgaaggcttt	tccctactgt	ggatctgtgg	tcctctccca	ctcattttgc	540
ctgcaccagg	aagtgtatca	gctggcctgc	acagatacca	ccttcaataa	tctgtatgga	600
ctgatggtgg	tagttttcac	tgtgatgctg	gacctgggtc	tcategcact	gtcctatgga	660
ctcatcctgc	acacagtagc	aggcctggcc	tcccaagagg	agcagcgccg	tgcctttcag	720
acatgcaccg	ctcatctctg	tgtgtgtgta	gtattctttg	tgcccatgat	ggggctgtcc	780
ctgggtgcacc	gttttgggaa	gcattgcccc	cctgctattc	atcttcttat	ggccaatgtc	840
tacctttttg	tgcctcccat	gcttaaccca	atcatataca	gcattaagac	caaggagatc	900
caccgtgcca	ttatcaaact	cctaggtctt	aaaaaggcca	gtaaa		945

&lt;210&gt; 368

&lt;211&gt; 969

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g217 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 368

atgaaccctg	aaaactggac	tcaggtaaca	agctttgtcc	ttctgggttt	ccccagtagc	60
cacctcatac	agttcctggg	gttccctggg	ttaatgggtg	cctacattgt	aacagccaca	120
ggcaagctgc	taattattgt	gtcagctggg	atagaccaac	gcctgcacat	acagatgtac	180
ttcttctctg	ggaattttct	cttccctggg	ctgttgctgg	taactgttgt	ggttcccaag	240
atgcttgtcg	tcatactcac	gggggatcac	accatctcat	ttgtcagctg	catcatccag	300
tcctacctct	acttctttct	aggcaccact	gacttcttcc	tcttggccgt	catgtctctg	360

gacggttacc	tggcaatctg	ccgaccactc	cgctatgaga	ccctgatgaa	tggccatgtc	420
tggtcccaac	tagtgctggc	ctcctggcta	gctggattcc	tctgggtcct	ttgccccact	480
gtcctcatgg	ccagcctgcc	tttctgtggc	cccaatggta	ttgaccactt	ctttcgtgac	540
agttggccct	tgctcaggct	ttcttgtggg	gacacccacc	tgctgaaact	ggtggccttc	600
atgctctcta	cgttggtgtt	actgggctca	ctggctctga	cctcagtttc	ctatgcctgc	660
attcttgcca	ctgttctcag	ggccccata	gctgctgagc	gaaggaaagc	gttttccact	720
tgcgcctcgc	atcttacagt	ggtggctcgc	atctatggca	gttccatctt	tctctacatt	780
cgatgtcag	aggctcagtc	caaactgctc	aacaaagggt	cctccgtcct	gagctgcac	840
atcacacccc	tcttgaaccc	attcatcttc	actctccgca	atgacaaggt	gcagcaagca	900
ctgagagaag	ccttgggggtg	gcccaggctc	actgctgtga	tgaaactgag	ggtcacaagt	960
caaaggaaa						969

&lt;210&gt; 369

&lt;211&gt; 1016

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g218 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 369

atgatgggag	aagcaaggaa	caggacagta	gtccaggaat	ttatcctgga	gggatttccct	60
gctgtccagc	atctggggaa	tgtccttttc	ctggtgcacc	tgctggcata	cctggccctcc	120
atcatggcaa	acatgctcat	aatcaccatc	acctgggctg	accatcacct	ccagacacct	180
atgtatttct	tcctcaacag	tttttccttc	tgtgaatgct	gttttatcac	cacagttatt	240
cctaaacttc	tggtcatctt	tcttcaggc	aggcaaataa	tcccttttac	tacttgcttc	300
atgcagtcct	tttcattttt	atttcttggg	tcaacagtgt	tcttccttat	ggctgtgatg	360
tccttggatt	gatacctggc	catttgcaag	cctctgcatt	actccaccat	catgagcctg	420
aggactagct	tccacctggg	cactgtctgc	tttgcgtgg	gcttcaactc	catcactggt	480
ctcatggtga	aggtttccca	gttatctttc	tgtggacccc	atgtcatccc	tcacttcttc	540
cgtgacctcg	gcctctgat	ccaactctcc	tgttctgaca	ccagatctac	tgaaacgttg	600
gcctttgtcc	ttgtttcatt	cgttcttttt	acatccctca	ttataaccat	cattgcatat	660
ggcacaatag	tgtacagctc	ccatcagcca	aggagcggca	gaaagctttc		720
tccacctgct	cctctcacct	cattgtcttc	tctctggtgt	atggcagctg	tgtcttcata	780
tatgtgaagc	cgaagcaaat	ggacaggctg	gactccaaca	gaatggctgc	tcttgtgaac	840
acagtgggtga	ccccactgct	gaacccgac	atttacactc	tgcggaacaa	gcaggtccac	900
caggctctga	gggatgctca	gtccagaatg	aaattgtaaa	aacagaatca	caacctccca	960
gtgaaggaat	gcaccttctc	cttgatctaa	tccaatcttt	ctcctgtttc	tggaaat	1016

&lt;210&gt; 370

&lt;211&gt; 927

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g219 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 370

atggccagta	caagtaatgt	gactgagttg	attttcaactg	gccttttcca	ggatccagct	60
gtgcagagtg	tatgctttgt	ggtgtttctc	cccgtgtacc	ttgccacggg	ggtgggcaat	120
ggcctcatcg	ttctgacggg	cagtatcagc	aagagtctgg	attctcccat	gtacttcttc	180
cttagctgcc	tgtccttggg	ggagatcagt	tattcctcca	ctatcgcccc	taaattcacc	240
atagacttac	ttgccaaagt	taaaaccatc	tctctggaag	gctgtctgac	tcagatattc	300
ttcttccact	tcttgggggt	tgctgagatc	cttttgattg	tgggtgatgg	ctatgattgc	360
tacgtggcca	tttgcaagcc	tcttcattat	atgaacatta	tcagtctgca	actgtgtcac	420
cttctggtgg	ctggttctcg	gctggggggc	ttttgtcaat	ccataattca	gattctcggt	480
atcatccaat	tgccttctcg	tggtcccaat	gtgattgacc	actatttctg	tgacctccag	540
cctttattca	agcttgccctg	cactgacacc	ttcatggagg	gggttattgt	gttgggcaac	600
agtggattat	tctctgtctt	ctccttcttc	atcttgggtg	cctcttatat	tgtcattctg	660
gtcaacttga	ggaaccattc	tgcagagggg	aggcacaag	ccctctccac	ctgtgcttct	720
catatcacag	tgtcatctct	gttttttggg	cctgctatct	tcctctacat	gcgaccttct	780

tccactttca	ctgaagataa	acttgtggct	gtattctaca	cggtcacac	ccccatgctg	840
aaccccatca	tttacacact	caggaatgca	gaggtgaaaa	tcgccataag	aagattgtgg	900
agcaaaaagg	agaatccagg	gagggag				927

&lt;210&gt; 371

&lt;211&gt; 965

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g220 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 371

atggcaaaag	gcaatcattc	atcagtgact	gagttcatcc	tcctagggct	cacagataat	60
caggaacttc	aagtcattct	ctttgggtgta	ttcctactga	tttacttagt	tactgtgttg	120
ggtaatcttg	gtttgattgt	gctaattccat	atcagtcctc	agcttcacac	acctatgtat	180
tttttctca	gccatctggc	ttttgtggat	ttttacggta	cctctgctat	cactccaaac	240
acccttgtca	actctttgca	tgaaattaaa	agcatgtcat	tttatgcatg	tgccactcaa	300
gtgtgctgct	tcattacact	ttcagtcctgg	gaattattgt	tgctctcatg	gcatatgac	360
ggtagttgc	catctgcaac	cctttactct	atgtagttct	catgcctagg	agactctgca	420
ttcaaatggg	cactggctta	tatatattatg	gtttcaccat	gggactcata	caagcagtgg	480
ccacattcca	catgtcgttt	tgtgactcta	atgtgggtcaa	ccagttctac	tgtgatgatg	540
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ttgtgcggt	caatgttttt	tgttctctta	tcattgttct	catctcctat	gtattcatcg	660
tctttgctat	ctaaggatcc	actctgccgt	aggaagacag	aaagcctttt	ctacctgtgc	720
ttctcacatg	ttttctattt	ccatatatta	tgggaccctc	agttttatgt	acctacagcc	780
taagtcaagc	cactcactag	ataaagacaa	atttgccctca	gtattctatg	cagtgggtgat	840
tcccatgcta	aaccattga	tctatagctt	gaggaatcaa	gaggtaaaaa	aatgctatga	900
aaaaaattat	tgaaaaaatg	tgttctagta	atcaacagta	aaatttggtg	gtactaaaag	960
aaata						965

&lt;210&gt; 372

&lt;211&gt; 951

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g221 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 372

atgtcccagg	tgactaacac	cacacaagaa	ggcatctact	tcatectcac	ggacatccct	60
ggatttgagg	cctcccacat	ctggatctcc	atccccgtct	gctgtctcta	caccatctcc	120
atcatgggca	ataccacccat	cctcaactgtc	attcgacacag	agccatctgt	ccaccagcgc	180
atgtatctgt	ttctctccat	gctggccctg	acggacctgg	gtctcaccct	caccacccta	240
cccacagtca	tgcagcttct	ctggttcaac	gttcgtagaa	tcagctctga	ggcctgtttt	300
gctcagtttt	tcttccctta	tggattctcc	tttatggagt	cttctgtcct	cctggctatg	360
tccgttgact	gctatgtggc	catctgctgt	ccccctccatt	atgcctccat	cctcaccaat	420
gaagtcattg	gtagaactgg	gttagccatc	atttgcctgt	gtgttctggc	ggttcttccc	480
tcccttttct	tactcaagcg	actgcctttc	tgccactccc	accttctctc	tcgctcctat	540
tgccctccacc	aggatatgat	ccgcctggtc	tgtgctgaca	tcaggctcaa	cagctgggat	600
ggatttgctc	ttgccttgct	cattattatc	gtggatcctc	tgctcattgt	gatctcctat	660
acacttatct	tgaaaaatat	cttgggcaca	gccacctggg	ctgagcgact	ccgtgccctc	720
aataactgcc	tgtcccacat	tctagctgtc	ctggctcctc	acattcccat	ggttggtgta	780
tctatgactc	atcgctttgc	caagcatgcc	tctccactgg	tccatgttat	catggccaat	840
atctacctgc	tggcaccccc	ggtgatgaac	cccatcattt	acagtgtaaa	gaacaagcag	900
atccaatggg	gaatgttaaa	tttcccttcc	ctcaaaaata	tgcatccaag	a	951

&lt;210&gt; 373

&lt;211&gt; 945

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g222 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 373

atgaatccag	caaatcattc	ccaggtggca	ggatttggtc	tactggggct	ctctcaggtt	60
tgggagcttc	ggtttgttt	cttcactgtt	ttctctgctg	tgtattttat	gactgtagtg	120
ggaaaccttc	ttatttggtt	catagtgacc	tccgaccac	acctgcacac	aaccatgtat	180
tttctcttgg	gcaatcttcc	tttcctggac	ttttgctact	cttccatcac	agcacctagg	240
atgctgggtg	acttgctctc	aggcaaccct	accatttctc	ttggtggatg	cctgactcaa	300
ctcttcttct	tccacttcat	tggaggcatc	aagatcttcc	tgctgactgt	catggcgtat	360
gaccgctaca	ttgccatttc	ccagccctg	cactacacgc	tcattatgaa	tcagactgtc	420
tgtgcactcc	ttatggcagc	ctcctgggtg	gggggcttca	tccactccat	agtacagatt	480
gcattgacta	tccagctgcc	attctgtggg	cctgacaagc	tggacaactt	ttattgtgat	540
gtgcctcagc	tgatcaaatt	ggcctgcaca	gatacctttg	tcttagagct	tttaatgggtg	600
tctaacaatg	gcctgggtgac	cctgatgtgt	tttctgggtg	ttctgggatc	gtacacagca	660
ctgctagtca	tgctccgaag	ccactcacgg	gagggccgca	gcaaggccct	gtctacctgt	720
gcctctcaca	ttgctgtggg	gaccttaata	tttgtgcctt	gcactctacgt	ctatacaagg	780
ccttttcgga	cattccccat	ggacaaggcc	gtctctgtgc	tatacacaat	tgtaaccccc	840
atgctgaatc	ctgccatcta	taccttgaga	aacaaggaag	tgatcatggc	catgaagaag	900
ctgtggagga	ggaaaaagga	ccctattggt	cccctggagc	acaga		945

&lt;210&gt; 374

&lt;211&gt; 960

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g223 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 374

atgtcatttc	taaattggcac	cagcctaact	ccagcttcat	tcatacctaaa	tggcatccct	60
ggtttggaag	atgtgcattt	gtggatctcc	ttcccactgt	gtaccatgta	cagcattgct	120
attacaggga	acttcggcct	tatgtacctc	atctactgtg	atgaggcctt	acacagacct	180
atgtatgtct	tccttgcctt	tctttccttc	acagatgtgc	tcattgtgcac	cagcaccctt	240
cccaacactc	tcttcataatt	gtgggtttaat	ctcaaggaga	ttgattttaa	agcctgcctc	300
gcccagatgt	tctttgtgca	caccttcaca	gggatggagt	ctgggggtgct	catgctcatg	360
gccttgacc	actgtgtggc	catctgcttc	cctctgcgtt	atgccaccat	cctcactaat	420
tcagtcatgt	ctaaagctgg	gttctcact	tttcttaggg	gtgtgatgct	tggtatccct	480
tccactttcc	tcaccaagcg	ccttccatac	tgcaagggca	acgtcatacc	ccacacctac	540
tgtgaccaca	tgtctgtggc	caagatatct	tgtggtaatg	tcagggttaa	cgccatctat	600
ggtttgatag	ttgccctgct	gattgggggc	tttgatatcc	tgtgcattac	aatctcctac	660
actatgattc	ttcaagcagt	tgtgagtcta	tcatacagcag	atgctcgaca	gaaggccttc	720
agcacctgca	ctgcccactt	ctgtgccata	gtectcacct	atgttccagc	cttctttacc	780
ttctttacac	accatttttg	gggacacacc	attcctctac	acatacatat	tattatggct	840
aatctctacc	tactaatgcc	tcccacaatg	aacctattg	tgtatggggg	gaaaaccagg	900
caggtaacgag	aaagtgtcat	taggttcttt	cttaagggaa	aggacaattc	tcataacttt	960

&lt;210&gt; 375

&lt;211&gt; 915

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g224 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 375

atggttgcta	caaacaatgt	gactgaaata	attttcgtgg	gattttccca	gaattggagt	60
gagcagaggg	tcattttctgt	gatgtttctc	ctcatgtaca	cagctgttgt	gctgggcaat	120
ggcctcattg	tggtgaccat	cctggccagc	aaagtgtctc	cctcccccat	gtattttctt	180
ctcagctact	tatcctttgt	ggagatctgc	tactgttctg	tcattggccc	caagcttacc	240

tttgactcct	ttatcaagag	gaaagtcatt	tctctcaagg	gctgcctcac	acagatgttt	300
tccctccatt	tctttggtgg	caactgagggc	tttctcctga	tggatgatggc	ctatgaccgc	360
tatgtggcca	tctgcaagcc	cttgcactac	atggccatca	tgaacgagcg	aatgtgtggt	420
ctcctcgtga	ggatagcatg	gggcgggggc	ctgctgcatt	ctggtgggca	aaccttcctg	480
atcttccagc	tcccgttctg	tggccccaac	atcatggacc	actacttctg	tgatgtccac	540
ccagtgcctg	agctggcctg	cgcagacacc	ttcttcatta	gcctgctgat	catcaccaat	600
ggcggctcca	tctccgtagt	cagttttctt	gtgctgatgg	cttcctacct	gatcatcctg	660
cacttccatga	gaagccacaa	cttggagggg	cagcacaagg	ccctctccac	ctgtgcctct	720
catgtcacag	ttgtcgacct	gttcttcata	ccttgctcct	tggctctatat	taggcctgtg	780
gtcacccctcc	ctgcagacaa	gatagttgct	gtattttata	cagtggtcac	acctctctta	840
aaccctgtga	tttactcctt	caggaatgct	gaagtgaaaa	atgccatgag	gagattttatt	900
gggggaaaag	taatt					915

&lt;210&gt; 376

&lt;211&gt; 939

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g225 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 376

atggctcctg	aaaatttcac	cagggtcact	gagtttatct	ttacaggtgt	ctctagctgt	60
ccagagctcc	agattccccc	cttcctgggc	tttctgggtg	tctatgggct	gaccatggca	120
gggaacctgg	gcacatcac	cctcaccagt	gttgactctc	gacttcaaac	ccccatgtac	180
tttttctctg	aacatctggc	tctcattaat	cttggttaact	ctactgtcat	tgccccctaaa	240
atgctgatta	acttttttagt	aaagaagaaa	actacctcat	tctatgaatg	tgccacccaa	300
ctgggagggt	tcttgttctt	tattgtatcg	gaggtaatca	tgctggcctt	gatggcctgt	360
gaccgctatg	tggctatttg	taaccctctg	ctgtacatgg	tgggtggtgt	tcggcggtct	420
tgccctcctg	tggctccctc	cacatacctc	tatggctttt	ctacagctat	tgtggtttca	480
tcttatgtat	tctctgtgtc	ttattgctct	tctaataata	tcaatcattt	ttactgtgat	540
aatgttctct	tgtaggcatt	atcttgcctc	gatacttact	taccagaaac	agttgtcttt	600
atatctgcag	caacaaatgt	ggttggttcc	ttgattatag	ttctagtatc	ttatttcaat	660
attgttttgt	ctatttttaa	aatatgttca	tcagaaggaa	ggaaaaaagc	cttttctacc	720
tgtgcttcac	atatgatggc	agtcacaatt	ttttatggga	cattgctatt	catgtatgtg	780
cagccccgaa	gtaaccattc	actggatact	gatgataaga	tggcttctgt	gttttacacg	840
ttggtaattc	ctatgctgaa	tcccttgatc	tacagcctga	ggaataagga	tgtgaagact	900
gctctacaga	gattcatgac	aaatctgtgc	tattccttt			939

&lt;210&gt; 377

&lt;211&gt; 979

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g226 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 377

atgaaaattt	ctaataactc	tttgggggtt	ttacctacga	cattcatttt	ggttggcac	60
ccagggtctg	agtcagagca	cctctggata	tccgtccccc	tctctctgat	atacatcatc	120
attttccttg	ggaatggcat	cattcttcac	gtcatcagaa	cagatattgc	cctacatcaa	180
cccatgtacc	tcttccttgc	catgttggca	ctggccgagg	ttcgtgtctc	tgcateccac	240
ctgcctacag	tgtaggcat	attccttttt	ggaaatactg	aaattagtct	tgaagcttat	300
ctttttccag	atgttctcca	tccattcttt	atccatgatg	gagtcagctg	tgctgctggc	360
catgtctttg	gaccgcttta	tagccatcta	cagcccactg	agctatacag	ctatcctgac	420
actgcccagg	gtctttggca	caggagctat	tatcgctactg	aaaagcatta	tgctcatggc	480
tccgttgccc	attctcttat	ggcgtctgcc	cttctgtggc	cacaatgccc	tctcacattc	540
ctattgtctg	caccccaatc	ttatctatct	atcttgtggg	aacatttctg	ttaacaatat	600
ctatgggatt	ttcattgtta	cctctacttt	tgggctggat	tcgttgctga	ttgtgatctc	660
ctatgggctc	atactccaca	ccgtgttggg	tattgccact	ggagaagggc	ggaagaaggc	720
actcaacacg	tgtggctcac	acgtctgtgc	tgtgcttgct	tactatgtgc	ctatgattgg	780

cttgtctata	gtgcaccgcc	ttggacatcg	tgtgtcccct	ctgctgcaag	ccatgatggc	840
caatgcctac	ctcttcttcc	cacctgttgt	caatcctatt	gtctacagca	ttaagaccaa	900
ggagatccat	ggtgccattg	tccgaatgct	attagagaaa	agacgcagag	tgtagccaaa	960
aaccatagta	ggaagaaat					979

&lt;210&gt; 378

&lt;211&gt; 933

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g227 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 378

atgtccaaga	ccagcctcgt	gacagcggtc	atcctcacgg	gccttcccca	tgtcccaggg	60
ctggagcccc	cactcttttg	aatcttcctg	gtgggtttacg	tgctcactgt	gctgggggaa	120
ctcctcatcc	tgtgggtgat	cagggtggat	tctcacctcc	acacccccat	gtactacttc	180
ctcaccaccc	tgtccttcat	tgacatgtgg	ttctccactg	tcacgggtgcc	caaaatgctg	240
atgacettgg	tgtccccaag	cggcaggggt	atctccttcc	acagctgcgt	ggctcagctc	300
tattttttcc	acttcttggg	gagcaccgag	tgtttcctct	acacagtcac	gtcctatgat	360
cgctacttgg	ccatcagtta	cccgtccagg	tacaccagca	tgatgagtgg	gagcagatgt	420
gccctcctgg	ccaccagcac	ttggctcagt	ggctctctgc	actctgctgt	ccagaccata	480
ttgactttcc	atttgcccta	ctgtggaccc	aaccagatcc	agcactatct	gtgtgatgca	540
ccgcccaccc	tgaaactggc	ctgtgcagac	acctcagcca	acgagatggg	catctttgtg	600
gacattgggc	tagtggcctc	gggctgcttt	ctcctgatag	tgctgtctta	tgtgtccatc	660
gtctgttcca	tcctgcggat	ccacacctca	gaggggaggg	acagagcctt	tcagacctgt	720
gcctcccact	gcacgttggt	cctttgcttt	ttgtttccct	gtgttttcat	ttacctgaga	780
ccaggctcca	gggacgtcgt	ggatggagtt	gtggccattt	tctacactgt	gctgacaccc	840
cttctcaacc	ctgttgtgta	caccttgaga	aacaaggagg	tgaagaaagc	tgtgttgaaa	900
ctgagagaca	aagtagcaca	ttctcagggg	gaa			933

&lt;210&gt; 379

&lt;211&gt; 936

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g228 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 379

atgccttcta	tcaatgacac	ccactttctat	cccccttct	tcctcctgct	aggaataacca	60
ggactggaca	ctttacatat	ctggatttct	ttcccattct	gtatttgtga	cctgattggc	120
attgtgggga	atatgaccat	tctctttgtg	atcaaaactg	aacatagtct	acaccagccc	180
atgttctact	tcctggccat	gttgtctatg	attgatctgg	gtctgtccac	atccactatc	240
cccaaaatgc	taggaatctt	ctggttcaac	ctccaagaga	tcagctttgg	gggatgcctt	300
cttcagatgt	tctttattca	catgtttaca	ggcatggaga	ctgttctggt	gggtggtcatg	360
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tgtgagcaca	ggggtctggc	cgggttgggc	tgtgcaccca	ttaagatcaa	cataatctat	600
gggctcatgg	tgattttctta	tattattgtg	gatgtgatct	taattgcctc	ttcctatgtg	660
cttatcctta	gagctgtttt	tcgccttccc	tctcaagatg	tccgactaaa	ggccttcaat	720
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atgacacatc	gttttggcca	aaacattccc	cactatatcc	atattctttt	ggctaaccctg	840
tatgtgggtg	tcccacctgc	ccttaaccct	gtcatttatg	gagtcaggac	caagcagatc	900
cgagagcaaa	ttgtgaaaat	atttgtacag	aaagaa			936

&lt;210&gt; 380

&lt;211&gt; 909

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g229 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 380

atgactgaat	tcatttttct	ggtactttct	cccaaccagg	aggtgcagag	ggtttgcttt	60
gtgatatttc	tggtcttgta	cacagcaatt	gtgctgggga	atttcctcat	tgtgctcact	120
gtcatgacca	gcagaagcct	tggttcccc	atgtacttct	tcctcagcta	cctctccttc	180
atggagatct	gctactcttc	cgctacagcc	cccaaactca	tctcagatct	gctgggtgaa	240
aggaaagtca	tatcttggtg	gggctgcatg	gcacagcttt	tcttcttgca	cttctttggt	300
ggcactgaga	ttttcctgct	cactgtgatg	gcctatgacc	actatgtggc	catctgcaag	360
cccctcagct	acaccaccat	catgaactgg	caggtgtgta	ctgtccttgt	aggaatagca	420
tgggtgggag	gcttcatgca	ttcctttgca	caaactcttc	tcattcttcca	cctgctcttc	480
tgtggcccca	atgtgatcaa	tcactatttc	tgtgacctag	ttccccttct	caaacttgcc	540
tgctctgaca	ccttctctcat	tggtctgctg	attgttgcca	atggaggcac	cctgtctgtg	600
atcagttttg	gggtcctctt	agcactctat	atggctcatct	tgctccatct	gagaacctgg	660
agctctgaag	ggtgggtgcaa	agccctcttc	acctgtgggt	cccatttctg	tgtggttatc	720
ttgttctttg	ggccctgctg	cttcaactct	ctgaggcctt	ctaccactct	gccccatagac	780
aagatgggtg	ctgtgttcta	cacagtata	accgcgatcc	tgaacctgtg	catctactct	840
ctgagaaatg	ctgaaatgag	gaaggccatg	aagaggctgt	ggattaggac	attgagacta	900
aatgagaaa						909

&lt;210&gt; 381

&lt;211&gt; 947

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g230 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 381

cttatagcta	caggaaactg	gacaagaata	agtgaagtta	tcctcatgag	cttctcttcc	60
ctgcctactg	aaatacagtc	attactcttt	ctgacatttc	taaccatcta	cctgggcacc	120
ctgatgggaa	actgcctcat	cattctgggt	accctagctg	accccatgct	acacagcccc	180
atgtacttct	tcctcagaaa	cttatctttc	ctggagattg	gcttcaacct	agtcattgtg	240
cccaaaatgc	tggggaccct	gcttgcccag	gacacaacca	tctccttctt	tggtctgtgc	300
actcagatgt	atttcttctt	cttcttttga	gtggctgaat	gcttcttcca	ggctaccatg	360
gcatatgacc	gctatgtggc	catctgcagt	cccttgcaat	acccagtcat	catgaaccaa	420
aggactcgtg	ccaaactggc	tgtgtgctcc	tggttcccag	gcttctctgt	agctactgtg	480
cagaccacat	ggctcttcag	ttttccattc	tgtggcacca	acaagggtgaa	ccacttcttc	540
tgtgacagcc	cacctgtgct	gaggctgggt	tgtgcagaca	cagcactgtt	tgagatctac	600
gccatcgctg	gaaccattct	ggtgggtcatg	atccctgct	tgctgatctt	gtgttcttat	660
actcgcatgg	ctgtgcccac	cctcaagatc	ccatcagcta	aagggaagaa	taaagccttt	720
tctacatggt	cctcacacct	ccttggtgtc	tctcttttct	atatatcatt	aagcctcacc	780
tacttccggc	ctaaatcaaa	taattcacct	gagggcacga	agctgctatc	attgtcctac	840
actgttatga	ctcccatggt	gaaccccat	atctacagcc	tgagaaataa	cgagggtgaag	900
aatgcctca	gcaggacggg	ctctaaggcc	ctagccctca	gaaactg		947

&lt;210&gt; 382

&lt;211&gt; 927

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g231 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 382

atgcctaatt	tcacggatgt	gacagaattt	actctcctgg	ggctgacctg	tcgtcaggag	60
ctacaggttc	tcttttttgt	ggtgttccta	gcggtttaca	tgatcactct	gttgggaaat	120
attgggtatga	tcattttgat	tagcatcagt	cctcagcttc	agagtcccat	gtactttttc	180
ctgagtcate	tgtcttttgc	ggacgtgtgc	ttctcttcca	acgttacccc	caaaatgctg	240

gaaaacttat	tatcagagac	aaaaaccatt	tcctatgtgg	gatgcttggt	gcagtgctac	300
tttttcattg	ccgttggtcca	cgtggaggtc	tatatcctgg	ctgtgatggc	ctttgacagg	360
tacatggccg	gctgcaaccc	tctgctttat	ggcagtaaaa	tgtctaggac	tgtgtgtgtt	420
cggctcatct	ctgtgcctta	tgtctatgga	ttctctgtca	gcctaatatg	cacactatgg	480
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cctctcatcc	agattgcctg	tgggagagtg	cacatcaaa	aaatcacaa	gattgttatt	600
gctggaatta	acttcacata	ttccctctcg	gtggctctca	tctcctacac	tctcattgta	660
gtagctgtgc	tacgcatgcg	ctctgccgat	ggcaggagga	aggcggtctc	cacctgtggg	720
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cccactgagg	aatccgtaga	gcagggcaaa	atggtggctg	tgttttacac	cacagtaatt	840
cctatgttga	atcccatgat	ctacagtctg	agaaataagg	atgtaaaaga	agcagtcaac	900
aaagcaatca	ccaagacata	tgtgagg				927

&lt;210&gt; 383

&lt;211&gt; 960

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g232 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 383

atgcttcata	ccaacaatac	acagtttcac	ccttccacct	tcctcgtagt	gggggtccca	60
gggctggaag	atgtgcatgt	atggattggc	ttccccctct	ttgcgggtgta	tctaacagcc	120
cttctaggga	acatcattat	cctgtttgtg	atacagactg	aacagagcct	ccaccaaccc	180
atgttttact	tcctagccat	gttggccggc	actgatctgg	gcttgtctac	agcaaccatc	240
cccaagatgc	tgggaatttt	ctggtttaat	cttggagaga	ttgcatttgg	tgcctgcac	300
acacagatgt	ataccattca	tatatgcact	ggcctggagt	ctgtgggtact	gacagtcacg	360
ggcatagatc	gctatattgc	catctgcaac	cccctgagat	atagcatgat	ccttaccac	420
aaggtaatag	ccattctggg	catagtcac	attgtcagga	ctttgggtatt	tgtgactcca	480
ttcacatttc	tcaccctgag	attgcctttc	tgtgggtgct	ggattatccc	tcataacctat	540
tgtgaacaca	tgggcttggc	aaagttagct	tgtgccagta	ttaatgttat	atatggattg	600
attgccttct	cagtgggata	cattgacatt	tctgtgattg	gatttttcta	tgtccagatc	660
ctccgagctg	tcttccatct	cccagcctgg	gatgccgggc	ttaaggcact	cagcacatgt	720
ggctctcacg	tctgtgttat	gttggctttc	tacctgccag	ccctcttttc	cttcatgaca	780
caccgctttg	gccacaacat	ccctcattac	atccacattc	ttctggccaa	tctgtatgtg	840
gtttttcccc	ctgctcttaa	ctctgttatc	tatggggtca	aaacaaaaca	gatacgagag	900
caggtaactta	ggataactca	ccctaaaagc	ttttggcatt	ttgaccccaa	gaggatcttc	960

&lt;210&gt; 384

&lt;211&gt; 936

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g233 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 384

atggaacaac	acaatctaac	aacgggtgaat	gaattcattc	ttacgggaat	cacagatata	60
gctgagctgc	aggcaccatt	atgtgcattg	ttcctcatga	tctatgtgat	ctcagtgatg	120
ggcaatttgg	gcatgattgt	cctcaccaag	ttggactcca	ggttgcaaac	ccctatgtac	180
ttttttctca	gacatctggc	tttcatggat	cttgggttatt	caacaactgt	gggacccaaa	240
atggttagta	attttgttgt	ggataagaat	ataatttctt	attatttttg	tgcaacacag	300
ctagctttct	ttcttgtgtt	cattggtagt	gaacttttta	ttctctcagc	catgtccctac	360
gacctctatg	tggccatctg	taaccctctg	ctatacacag	taatcatgtc	acgaagggtta	420
tgtcagggtgc	tggtagcaat	cccttacctc	tattgcacat	tcattttctct	tctagtccacc	480
ataaagattt	ttactttatc	cttctgtggc	tacaacgtca	ttagtcatct	ctactgtgac	540
agtctccctt	tgttaccttt	gctttgttca	aatacacatg	aaattgaatt	gataattctg	600
atctttgcag	ctattgattt	gatttcattc	cttctgatag	ttctttttatc	ttacctgctc	660
atccttgtag	ccattctcag	gatgaattct	gctggcagac	aaaaggcttt	ttctacctgt	720
ggagcccacc	tgacagtggg	catagtgttc	tatgggactt	tgtttttcat	gtacgtgcag	780

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ccccagtcga gtcattccctt tgacactgat aaagtggcctt ccatatttta caccctgggtt      840
atccccatgt tgaatccctt gatctatagt ttacgaaaca aagatgtaaa atatgcccta      900
cgaaggacat ggaataactt atgtaatatt tttgtt      936

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&lt;210&gt; 385

&lt;211&gt; 945

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g234 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 385

```

atgatgtggg aaaactggac aattgtcagt gaatttggtc tcgtgagctt ctcagccctg      60
tccactgagc ttcaggctct actgtttctc cttttcttga ccatttactt gggttacttta      120
atggggcaatg tcctcatcat cctgggcact atagctgact ctgcactaca aagtcctatg      180
tacttcttcc tcagaaactt gtccttcctg gagatagggt tcaacttggg cattgtgccc      240
aagatgctgg ggaccctgat cattcaagac acaaccatct ccttccttgg atgtgccact      300
cagatgtatt tcttcttctt ttttggggct gctgagtgtt gcctcctgga caccatggca      360
tatgaccgct acgtggccat ctgtgacccc ttgcactacc cagtcacatc gggccacata      420
tcctgtgccc agctggcagc tgccctcttg ttctcagggt tttcagtggc cactgtgcaa      480
accacatgga ttttcagttt ccctttttgt ggccccaaca ggggtgaacca cttcttctgt      540
gacagccctc ctgttattgc actgggtctgt gctgacacct ctgtgtttga actggaggct      600
ctgacagcca ctgtcccatc cattctcttt cctttcttgc tgatcctggg atcctatgtc      660
cgcacccctc ccactatctt caggatgccg tcagctgagg ggaaacatca ggcattctcc      720
acctgttccg cccacctctt ggttgtctct ctcttctata gcaactgcat cctcacgtat      780
ttccgacccc aatccagtgc ctcttctgag agcaagaagc tgctgtcact ctcttcaca      840
gtggtgactc ccatgttgaa ccccatcatc tacagctcaa ggaataaaga agtgaaggct      900
gcactgaagc ggcttatcca caggaccctg ggctctcaga aacta      945

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&lt;210&gt; 386

&lt;211&gt; 931

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g235 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 386

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atggccaaaa ccaataattc agaagttact gaattcatcc tcttgggact cacagacaat      60
ccagagctcc aagccctttt ttagggggat ctttctagt atcaatttaa gtagtgtcat      120
gggtagcctt ggggttaatta tgctaattca tatcagtcct cagcttcaca cagctatgta      180
ttttttctc agccacgtag cttttgttta tttttgctac acctcctcta tcaccctaa      240
cagcctagtg aacctcctcc aagaaactaa aagaatatcc ttacctactt gtgcctctca      300
gttgcatgtc tttatcatgt ttgtggtttg tgacatgtat gtgctctcag ccatggcata      360
tgacaggatg gtggccatct gcaacccttt actctatagt atcatcatga acagaagggt      420
ctgtattcaa atgggtggtaa gtacatattt gtatggcttt tctgtgagac tcctacaggc      480
aattcttaca ttcacttgtt ctttctgaga ttcaaatata ataaataatt cctattgtga      540
tgatgttccc ctagcatgtc taccctatca taaaaacatc taaaagatg taaaagaact      600
gatattgttc acacttgctg gtttcaatac acttttctcc cttcttatea tctcatctc      660
ctacatatca gtactgtctg ccattctgag aattaattca gctgaaagta gacaaaaggc      720
atcttctact tgtgactccc acctgacttc tatcatcata ttttatggta taattacctt      780
catgtatatg cagtgaaaaa caaataattc tctggatata gacaaaatag cttctgtttt      840
ctgtattgtg aaaattcctt caatatatag cctgaggaac cacgaagtca aagatgcttt      900
gaagatgatt atggaaaatc tatgtcttac t      931

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&lt;210&gt; 387

&lt;211&gt; 552

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g236 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 387

ttagttaagg	taaaaaaaaa	ctagaatatt	tttctctcaa	cagcatatca	ctttttcccc	60
acactttctg	taaataataa	caaatttcta	taaataataa	ataataat	ctaggataa	120
tttaatttac	atagtgaac	aagccattct	taggtatatt	ccttagttct	gtcttcgaaa	180
gtctgcatcc	tgtagcagc	tggcgtagtt	ggtgggatac	ttagcagaag	gattgtatgt	240
gtgtcctact	gtttcactgt	cctcctccag	gtccaatgcc	atcaatcact	ttttctgtaa	300
taaatcccta	gggcttggtc	tttcatgcta	caacatttat	atcagcacag	cagtcctgc	360
ctttgcggag	tttgagtgtc	gcattcattg	ccatatttgg	tcacatgtt	ctcctggaca	420
tatatectgg	ttgctatcaa	gaggatgtcc	tcagtgggga	gaaaagaatt	gtctatttgt	480
gtctcccacc	tgaaaactag	caccattttt	catacagccc	tcttttatgt	gtacttacag	540
cctgattttt	tt					552

&lt;210&gt; 388

&lt;211&gt; 963

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g237 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 388

atgtctgggg	acaacagctc	cagcctgacc	ccaggattct	ttatcttgaa	tggcgttctc	60
gggctggaag	ccacacacat	ctggatctcc	ctgccattct	gctttatgta	catcattgct	120
gtcgtgggga	actgtgggct	catctgcctc	atcagccatg	aggaggccct	gcaccggccc	180
atgtactact	tcctggccct	gctctccttc	actgatgtca	ccttgtgcac	caccatggta	240
cctaataatgc	tgtgcatatt	ctggttcaac	ctcaaggaga	ttgactttaa	cgctgcctg	300
gcccagatgt	ttttgtcca	tatgctgaca	gggatggagt	ctgggggtgt	catgctcatg	360
gccctggacc	gctatgtggc	catctgtctac	cccttacgct	atgccaccat	ccttaccaac	420
cctgtcatcg	ccaaggctgg	tcttgccacc	ttcttgagga	atgtgatgct	catcatccca	480
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tgtgaccata	tgtctgtggc	caaggatatcc	tgtggcaatt	tcaagggtcaa	tgctatttat	600
ggtctgatgg	ttgtctcctc	gattgggtgtg	tttgatatct	gctgtatctc	tgtatcttac	660
actatgattt	tgcaggctgt	tatgagcctg	tcacacagcag	atgctcgtca	caaagccttc	720
agcacctgca	catctcacat	gtgttccatt	gtgatcacct	atgttgctgc	ttttttcact	780
tttttcactc	atcgttttgt	aggacacaa	atcccaaacc	acatacacat	catcgtggcc	840
aacctttatc	tgtacttggc	tcctaccatg	aacccaattg	tttatggagt	caagaccaag	900
cagattcagg	aagggtgta	taaattttta	cttgagagaca	aggttagttt	tacctatgac	960
aaa						963

&lt;210&gt; 389

&lt;211&gt; 400

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g238 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 389

tgtttctgtg	gctttgtgtg	tctcaccagt	tgccctgttct	gtctaaccce	ggagaggtaa	60
ataacaccct	gagaatggcc	ctaggctcac	acaggtttcc	cagttagcca	atcaagaaga	120
attacaaatg	gccacactat	cagccagagc	tgctgcctca	ctggagttcc	aaaacggaga	180
ggatctgtct	ccctgcaccc	tcaggcttgg	aaatgctgag	aaatgctaag	ccactggggg	240
ttcaattata	cctaatttaa	aacgagcaaa	gtagacttgc	cccccaagg	gttccacaaa	300
aaacttaaag	cctggcagct	cagccctgag	ttcatactgc	ttaaaagaca	ccggggggagg	360
aggtaagtga	tcagggtgaga	gaagttcggt	ccccagagag			400

&lt;210&gt; 390

&lt;211&gt; 954

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g239 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 390

atgaagccaa	caatacaaat	ggcttcagga	aatctcacat	gggtgacgga	gttcattctt	60
gtgggagtc	cagatgatcc	ggagctccag	attccctct	tcctggctct	cctgggtgctc	120
tatttgctga	ccgtggcagg	gaacctgggc	atcatcaccc	tcaccagtgt	tgaccctcaa	180
cttcaaacc	ccatgtactt	tttctctga	cacttggcta	ttattaatct	ttgcaattct	240
actgtcgtt	cccctaaaat	gctggttaac	ttcctggtta	ccaagaaaac	catatcatac	300
tatggatgt	cagcccaact	gggtggattc	ttggttttca	ttgtggctga	gattttcacg	360
ctggctgcaa	tggcctatga	ccgctatgtg	gctatttggg	gccctctgct	ctacgccgta	420
gtgggtgtc	caaaggtgtg	tcgtctgctg	gtgtccctca	cataccttca	gagtcttata	480
acagactga	ctgtctcttc	ctgtgtgttc	tctgtgtcat	actgttcttc	caacattata	540
aaccatttt	actgtgatga	tgtccctttg	ctagcattgt	cctgttctga	tacctacatt	600
ccagaaacag	cagtctttat	cttttcaggg	accaacttgc	ttttctccat	gacgttggtt	660
ctgatatac	acttcaacat	tgttattacc	attttgagga	tacgttcctc	agaaggacga	720
caaaaagcct	tttccacctg	tgcttctcac	atgatagctg	tggttggtgt	ctatgggact	780
ctccttttca	tgtatttgca	accaaggagt	aatcattcat	tagatactga	caaatggct	840
tcgggtctt	acacctgggt	gataccagtg	ctgaaccttc	taatctacag	cctcaggaac	900
aagaacgtga	aggatgcact	aaagaggttc	ctagataacc	catgccgata	actc	954

&lt;210&gt; 391

&lt;211&gt; 945

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g240 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 391

atgttgctcc	caaaccacac	catagtgaca	gaattcattc	tcttaggact	gacagacgac	60
ccagtgtctg	agaagatcct	gtttgggggt	ttcctggcga	tctacctaat	cacactggca	120
ggcaacctgt	gcatgatcct	gctgatcagg	accaattccc	aactgcaaac	acccatgtat	180
ttcttccttg	gtcacccttc	ctttgtagac	atttgctatt	cttccaatgt	tactccaaat	240
atgctgcaca	atctctcttc	agaacagaag	accatctcct	acgtgggatg	cttcacacag	300
tgtcttctct	tcategcctt	agtgatcact	gagttttact	tccttgcttc	aatggcattg	360
gatcgctatg	tagccatttg	cagcccttta	cattacagtt	ccaggatgtc	caagaacatt	420
tgcattcttc	tggctactgt	gccttacatg	tatggcttcc	ttaatgggct	ctctcagaca	480
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gatcctcctc	ttatcatgct	ggcctgctct	gacaccctgt	tcaaaaagat	ggcaatgttt	600
gtagttgcag	gctttactct	ctcaagctct	ctcttcatca	ttcttctgtc	ctatcttttc	660
atttttgcag	cgatcttcag	gatccgttct	gctgaaggca	ggcacaaaagc	cttttctacg	720
tgtgcttccc	acctgacaat	agtcactttg	ttttatggaa	ccctcttctg	catgtacgta	780
aggcctccat	cagagaagtc	tgtagaggag	tccaaaataa	ttgcagtctt	ttatactttt	840
ttgagcccaa	tgctgaaccc	attgatctat	agcctacgga	acagagatgt	aatccttgcc	900
atacaacaaa	tgattagggg	aaaatccttt	tgtaaaattg	cagtt		945

&lt;210&gt; 392

&lt;211&gt; 939

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g241 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 392

atgcctatag	ctaacgacac	ccagttccat	actttctcat	tcctactgct	gggtatccca	60
gggctagaag	atgtgcacat	ctggattgga	ttcccttttt	tctctgtgta	tcttattgca	120

ctcctgggaa	atgctgctat	cttctttgtg	atccaaactg	agcagagtct	ccatgagccc	180
atgtactact	gcctggccat	gttggattcc	attgacctga	gcttgtctac	ggccaccatt	240
cccaaaatgc	tgggcatctt	ctgggtcaat	atcaaggaaa	tatcttttgg	aggctacctt	300
tctcagatgt	tcttcatcca	tttcttcaat	gtcatggaga	gcacgtattt	ggtggccatg	360
gcctttgacc	gctacattgc	catttgcaaa	cctctttggg	acaccatgat	cctcaccagc	420
aaaatcatca	gcctcattgc	aggcattgct	gtcctgagga	gcttgtacat	ggtcattcca	480
ctgggtgttc	tctctttaag	gttgcccttc	tgtggacatc	gtatcatccc	tcatacttac	540
tgtgagcaca	tgggcattgc	ccgtctggcc	tgtgccagca	tcaaagtcaa	cattatgttt	600
ggtcttggca	gtattttctt	cttgttattg	gatgtgctcc	ttattattct	ctcccatatc	660
aggatcctct	atgctgtctt	ctgcctgccc	tcctgggaag	ctcgactcaa	agctctcaac	720
acctgtggct	ctcacattgg	tggtatctta	gccttttcta	caccagcatt	tttctcttct	780
tttacacact	gctttggcca	tgatattccc	caatatatcc	acattttctt	ggctaattcta	840
tatgtggttg	ttctccccc	cctcaatcct	gtaatctatg	gggtcagaac	caaacatatt	900
aggagacag	tgctgaggat	tttcttcaag	acagatcac			939

&lt;210&gt; 393

&lt;211&gt; 984

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g242 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 393

atgcatactt	tcaagtttgt	tctagatttc	aacatgaaga	atgtcactga	agttacctta	60
tttgtactga	agggcttcac	agacaatctt	gaactgcaga	ctatcttctt	cttctgtttt	120
ctagcaatct	acctcttcac	tctcatggga	aatttaggac	tgatttttagt	ggtcattagg	180
gattcccagc	tcacaaacc	catgtactat	tttctgagta	tggtgtcttc	tgtggatgcc	240
tgctattcct	cagttattac	cccaaataatg	ttagtagatt	ttacgacaaa	gaataaagtc	300
atttcattcc	ttggatgtgt	agcacagggtg	tttcttgctt	gtagttttgg	aaccacagaa	360
tgctttctct	tggttgcaat	ggcttatgat	cgctatgtag	ccatctacaa	ccctctcctg	420
tattcagtga	gcattgtcacc	cagagtctac	atgccactca	tcaatgcttc	ctatgttgct	480
ggcattttac	atgctactat	acatacagtg	gctacattta	gcctatcctt	ctgtggagcc	540
aatgaaatta	ggcgtgtctt	ttgtgatatc	cctcctctcc	ttgtctatttc	ttattctgac	600
actcacacaa	accagcttct	actcttctac	tttgtgggct	ctatcgagct	ggtcactatc	660
ctgattgttc	tgatctccta	tggtttgatt	ctgttgccca	ttctgaagat	gtattctgct	720
gaagggagga	gaaaagtctt	ctccacatgt	ggagctcacc	taactggagt	gtcaatttat	780
tatgggacaa	tcctcttcat	gtatgtgaga	ccaagttcca	gctatgcttc	ggaccatgac	840
atgatagtgt	caatatctta	caccattgtg	attcccttgc	tgaatcccgt	catctacagt	900
ttgaggaaaca	aagatgtaaa	agactcaatg	aaaaaaatgt	ttgggaaaaa	tcagggttatc	960
aataaagtat	attttcatat	taaa				984

&lt;210&gt; 394

&lt;211&gt; 984

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g243 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 394

atgaatggag	ccaacagctc	cagcctgaca	ccaagatatt	tcattctcag	tggcgttctt	60
gggctggaag	ctgcacacat	ctggatctcc	ctgcctttct	gcttcatgta	catcattggt	120
gttttgggga	actgtggact	tatatacctc	attagccatg	aggaggccct	gcaccaacce	180
acctactact	tcctagactt	gctgtctctt	acagatgtta	ctggatgcac	ctcatttggt	240
cccaatatgt	tatgtatttt	ttggtttggc	ctcaaggaaa	ttgactttaa	tgctgcctt	300
gtgcagatgt	ttttcatcca	catgctgaca	ggcatggagt	ctggggcgct	catgcttatg	360
gctctagacc	gctatgtggc	catttgctac	cctctacact	attccaccat	cttcaccaac	420
actgtaatta	ccaaagttag	gcttgtcacc	ttcattcaaa	gtgtgttgct	tatgattcca	480
tttgctttcc	tgatcaagtg	tcttccctat	tgcaggggca	acctcatcca	ccacacctat	540
tttaacatat	gtctgtggcc	aaattatcct	gtggtaatgt	ccagattaat	gccatctatg	600

gtctcatagc	tgccatattg	attggggggg	ttgacatgtt	ctgtatctcc	atgtcttaca	660
ccatgattat	ccgtgctgta	gtgaatttgt	catctgcaga	tgctgccaca	aagccttcag	720
tacctgtaca	gcacatatat	gtgctatttt	catcacttat	gtcccagcct	ttttcaactt	780
cttcactcac	cgctttgggg	gacacaccat	acctcatcat	gttcacattt	ttatagccaa	840
cctttacctg	atgctgcctc	ccaccttaaa	tccaattgtc	tatggagtga	agaccaagca	900
gatccgtgaa	ggagtgatca	aattgttttt	tagagagaaa	ggtattttta	gtatgacata	960
aatctatgat	atagaagtct	gaat				984

&lt;210&gt; 395

&lt;211&gt; 903

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g244 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 395

atggccagta	caaataatgt	gactgagtca	atgacaccca	gcctttttcca	ggatccagca	60
gtgcagagag	tgtgctttgt	ggtgtttctc	cccgtgtact	ggccatggag	gtgggcaatg	120
gcctcatcgt	tctgacgggc	agtatcagca	agagtctgca	ttcccctgtg	tacttcttcc	180
tgagctacct	gtcattgatg	gagatcagtt	acttcactgt	tgcccctaaa	ttcatcacag	240
acttacttgc	caagattaaa	gccatctctc	tggagggcta	tctggctcag	atattcttgc	300
acttctttgg	catcccctgg	atctttctgc	tcccactgat	gaccaatgac	caatataatg	360
ccaactgcaa	actttattac	tacacaacca	tcattgagctg	cctgtctgtc	accttctggt	420
ggctgggttc	tggctgaggg	gcataattca	ctcaatgggt	cagatccctg	tctctgtcca	480
attgttcttc	tgtggtccca	acatgattga	ccactcattc	tgtgacctcc	aggtcttatt	540
caagcttgcc	tgcactgaca	cctttgtgga	gggggttatt	gtgttggcca	acagtgaatt	600
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ggaaccattc	tgcagagggg	aggtgcaaag	ccctctccac	ctgtgcctct	tatcttgtat	720
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gtggctgtat	tttacgtggt	catcaccccc	atgctgaacc	ccttcatcta	cacgcttggg	840
aatgcagaga	tgaaaatcac	catgaggaga	ttgttgggca	ggacagtga	ctcaggaatg	900
gaa						903

&lt;210&gt; 396

&lt;211&gt; 972

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g245 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 396

gggagctgaa	agcaatgaaa	gtcttgacct	cctatctgtc	ttcctgactg	gcateccagg	60
actggaggcc	caacatgggt	ggctctccat	ccctttcttc	accatgtaca	ttgtggccat	120
tgtgggaaac	atcctaatta	tggcagcagt	gcaggaagac	tctgccctac	atgagcccat	180
gtacttattt	ctctccatgt	tggctgtcac	tgaggtgggc	gtctctgtgt	ctacactgct	240
actgttacag	gcattctttg	gtttgatgcc	cacagagttg	actttgatgg	ctgcctggcc	300
cagatgttct	tcattcacac	cttctcctgc	atggagtcag	gggtccctact	agccatgagc	360
tatgaccgct	ttgtagccat	ctacaacctc	ctgccttata	cagccatcct	gacctgccc	420
cgtattatct	gcatgggtct	gggcattaca	ctgaagagtg	tggcactcat	ggccccactt	480
ccaatccttt	tgagggcaact	gccctattgc	cacactaatg	tcctctcaca	ctcctactgc	540
ctccactcag	atctgatcca	gctgccttgt	gcagatacta	aactcaacag	catcctgggc	600
ttagccattg	ttctcgcaaa	tttcgggctg	gactcattgc	ttatcgtggg	ctcttatgtc	660
ttgattcttt	atacagtgat	gggcattgct	tctggagagg	gacgggtggaa	ggctctcaac	720
acatgtgtgt	cacatatttg	tgcagtgtct	atatattatg	tgcccatgat	tggggtgtct	780
gtgatgcac	gtgctgccaa	acatgtctct	cccattgtcc	acacacttat	gtctagcatc	840
tgcccttttg	tgccacctgt	acttaatccc	atcatctata	gtgttaagac	ccagacaata	900
agacagggaa	ttctcacctt	gttttctctg	aagagggaa	tgctctgaat	cactgcaagg	960
agtcaggaac	tg					972

<210> 397  
 <211> 874  
 <212> DNA  
 <213> Unknown (H38g246 nucleotide)

<220>  
 <223> Synthetic construct

<400> 397  
 acttttgttta ttattttcaaa atttcaaggc tgctgaaagg taggtcttta tacacagtca 60  
 ctttatttgc tagctgagta ttttcatcgg gggcaactga tgaaaatgtt gacttccact 120  
 aacctaaagcc tgtccgttgt tactatcgta tcttccagtt caacgtcagg gaaatagttt 180  
 ttggtgcttt ccttgtttat atacagatgt ttatgactta tctatgcact ggcttggaaat 240  
 ctgggggtact gataatcctg gccatagacc actatgtcgt aattcgcaat ccactgagat 300  
 ataccatgat tctcatgaac aatgtggttag ccacccatagg aagtcatgat aattagatct 360  
 ttaatcttta tcatcccttt tgagtttctc atcttgctgt tgtcattctg tgctgcccac 420  
 atcatccccc acaccaaagtg tgagcacatg ggcattgccc atctttcctg tgccagtgtc 480  
 agagccaata atatgttttg gatggttgcc tttttgtggg atttattgac cttattgcaa 540  
 ttggtttctc tactgtaaaag aaactacaca ctgtttcact taccaccatg gaatggccag 600  
 ttcgaggctc tcaataacctg tgggtcccat gtttgtcatg ctcatcttct acatcccagt 660  
 attttttttc tgatacactg cttggtgaaa gcatccctgc tatattcgta tatttctggc 720  
 caatgtatat acggttggtc tacctgtatt caaccctgtt atctatggga tcaggaaaaa 780  
 acagatccca gactagggtg tagacctaaa gacatttgat gatcagtcac ttctagtcac 840  
 gatgatatat atattgggat atatatgcaa atat 874

<210> 398  
 <211> 936  
 <212> DNA  
 <213> Unknown (H38g247 nucleotide)

<220>  
 <223> Synthetic construct

<400> 398  
 atggatgaag ccaatcactc tgtggtctct gagtttgtgt tcttgggact ctctgactcg 60  
 cggaagatcc agctcctcct ctctctcttt ttctcagttg tctatgtatc aagcctgatg 120  
 ggaaatctcc tcatgtgtgt aactgtgacc tctgaccctc gtttacagtc ccccatgtac 180  
 ttcctgctgg ccaacctttc catcatcaat ttggtatttt gttcctccac agctcccaag 240  
 atgatttatg accttttcag gaagcacaag accatctctt ttgggggctg tgtagttcag 300  
 atcttcttta tccatgcagt tgggggaact gagatggtgc tgctcatagc catggctttt 360  
 gaccgatatg tggccatatg taagcctctc cactacctga ccatcatgaa ccacaaaagg 420  
 tgcattttgt ttttagtcat ttcttggtat ataggtatta ttactcagt gattcagttg 480  
 gcttttggtg tagacctgct gttctgtggc cctaataaat tagatagttt cttttgtgat 540  
 ctctctcgat ttatcaaact ggcttgcata gagacctaca cattgggatt catggttact 600  
 gccaatagtg gatttatttc tctggtctct tttttaattc tcataatctc ttacatcttt 660  
 attttggtga ctgttcagaa aaaatcttca ggtggtatat tcaaggcttt ctctatgctg 720  
 tcagctcatg tcattgtggt gggttttggtc tttgggcat taatcttttt ctatattttt 780  
 ccatttccca catcacatct tgataaattc cttggcatct ttgatgcagt tatcactccc 840  
 gttttgaatc cagtcactta tacttttaga aataaagaga tgatggtggc aatgagaaga 900  
 cgatgctctc agtttgtgaa ttacagtaaa atcttt 936

<210> 399  
 <211> 503  
 <212> DNA  
 <213> Unknown (H38g248 nucleotide)

<220>  
 <223> Synthetic construct

<400> 399  
 aagcagtcca gtggtgacag tgggaaccag accacctggc tgatcctagt gggcttcggg 60

gagctgcaat	acctgggctt	ccttcccttc	actctcttcc	tggccatcta	tgtggtgaca	120
gttggggcaa	tgccctcatc	atgctggctg	tggcctctag	tggacactg	cacccaccaa	180
tgtacttctt	cctctgccac	ttctccctgc	tggagattgg	ctatacctcc	aacgtcatac	240
tatggctgtt	gcagagtttc	ttggagggga	aggaagtcac	ctctctagtc	agctgtctgg	300
ctcagttcta	cgtgttttcc	tcgctggctg	cagctgagtg	cctcctgcta	tctgccgtgt	360
cctatgactg	ttacttggcc	atctgctgcc	cccttcaacta	tcctgccctg	atgagcacct	420
ggttttgtca	ctgcctggcc	gctgggtgctt	ggttcagtg	cttcttctcc	tctgccttca	480
ctatggccct	ggcagcacct	ctg				503

&lt;210&gt; 400

&lt;211&gt; 963

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g249 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 400

atgctaacac	tgaataaaac	agacctaata	ccagcttcat	ttattctgaa	tggagtccca	60
ggactggaag	acacacaact	ctggatttcc	ttccattctt	gctctatgta	tgttgtggct	120
atggtaggga	attgtggact	cctctacctc	attcactatg	aggatgccct	gcacaaaccc	180
atgtactact	tcttggccat	gcttttcttt	actgaccttg	ttatgtgctc	tagtacaatc	240
cctaaagccc	tctgcatctt	ctggtttcat	ctcaaggaca	ttggatttga	tgaatgcctt	300
gtccagatgt	tcttcatcca	caccttcaca	gggatggagt	ctgggggtgt	tatgcttatg	360
gccctggatc	gctatgtggc	catctgctac	cccttaogct	attcaactat	cctcaccaat	420
cctgtaattg	caaaggttgg	gactgccacc	ttcctgagag	gggtattact	cattattccc	480
tttactttcc	tcaccaagcg	cctgccctac	tgcagaggca	atatacttcc	ccatacctac	540
tgtgaccaca	tgtctgtagc	caaattgtcc	tgtggtaatg	tcaagggtcaa	tgccatctat	600
ggtctgatgg	ttgccctcct	gattgggggc	tttgacatac	tgtgtatcac	catctcctat	660
accatgatcc	tccgggcagt	ggtcagcctc	tcctcagcag	atgctcggca	gaaggccttt	720
aatacctgca	ctgcccacat	ttgtgccatt	gttttctcct	atactccagc	tttcttctcc	780
ttcttttccc	accgcttttg	ggaacacata	atccccctt	cttgccacat	cattgtagcc	840
aatattttatc	tgtctctacc	accactatg	aaccctattg	tctatggggg	gaaaaccaa	900
cagatacgag	actgtgtcat	aaggatcctt	tcaggttcta	aggataccaa	atcctacagc	960
atg						963

&lt;210&gt; 401

&lt;211&gt; 945

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g250 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 401

atgacaacac	accgaaatga	caccctctcc	actgaagctt	cagacttctt	cttgaattgt	60
tttgtcagat	ccccagctg	gcagcactgg	ctgtccctgc	ccctcagcct	ccttttctctc	120
ttggccgtag	gggccaacac	caccctcctg	atgaccatct	ggctggagge	ctctctgcac	180
cagccccctgt	actacctgct	cagcctctctc	tcctgtctgg	acatcgtgct	ctgcctcact	240
gtcatcccca	aggctctgac	catcttcttg	tttgacctca	ggcccatcag	cttccctgcc	300
tgtcttctcc	agatgtacat	catgaattgt	ttcctagcca	tggagtcttg	cacattcatg	360
gtcatggcct	atgatcgtaa	tgtagccatc	tgccaccac	tgagatatcc	atcaatcatc	420
actgatcaact	ttgtagtcaa	ggctgccatg	tttattttga	ccagaaatgt	gcttatgact	480
ctgcccatacc	ccatcttttc	agcacaactc	cgttattgtg	gaagaaatgt	cattgagaac	540
tgcatctgtg	ccaatatgtc	tgtttccaga	ctctcctgcg	atgatgtcac	catcaatcac	600
ctttaccaat	ttgtctggagg	ctggactctg	ctaggatctg	acctcatcct	tatcttctctc	660
tcctacacct	tcattctgctg	agctgtgctg	agactcaagg	cagagggtgc	cgtggcacaag	720
gccttaagca	catgtggctc	ccacttcatg	ctcatcctct	tcttcagcac	catccttctg	780
gtttttgtcc	tcacacatgt	ggctaagaag	aaagtctccc	ctgatgtgcc	agtcttgctc	840
aatgtttctcc	accatgtcat	tcctgcagcc	cttaacccca	tcatttacgg	ggtgagaacc	900
caagaaatta	agcagggaat	gcagaggttg	ttgaagaaag	ggtgc		945

<210> 402  
 <211> 906  
 <212> DNA  
 <213> Unknown (H38g251 nucleotide)

<220>  
 <223> Synthetic construct

<400> 402

ttgagctcta	tgtgtctcac	cattgtgatg	cattgtgaat	tcttcctcat	ggacttgact	60
gatgatcctc	agcttcatcc	caccttctct	gccctcttcc	tccccatcta	tgtagtcatg	120
gtgatggaaa	cctgggcctc	cttgccctca	ttgtggtcag	tccccaattc	ctcaccacca	180
tgtatttctt	cctcagcaac	tggctctctg	ttgacttctg	ttattcttca	gtaacagtcc	240
caaaaatata	aatgggggtc	ttttctgact	gccaagtctt	ctccttctct	ggttgcatgg	300
cccagttaag	ctgcttttaa	aatatttgct	gacaccgagt	tcttcctcct	ggcctccatg	360
gtctattacc	gctaagaggc	cgtctgcaat	cctctgctct	accatatcac	catgtcccca	420
aagctctgct	tgcagctggg	ggccaccagc	tatgaacatg	gtgctcccta	gtagcacaat	480
ctttcatctg	atcttctgta	agtctgtgcc	atcattcatt	aattctgtta	tttctctccc	540
caccgaggct	ttaaaaactc	tcctgctctg	acatgcaagg	ccttcaactt	cttacctttg	600
cctctagtag	ctttaatgta	tcgggtgtccc	ggacaatctt	ccttgtctcc	atttaattat	660
gagaatgccc	tcgggtttgag	gcaaacactt	gtgcttccca	cctgacagca	gtcagcctgt	720
gctatggaac	cacagtgttc	cttcacctgc	acctatcctt	gaagtgttca	ccagacagag	780
atatgctggt	ctctgtttta	cacagtggct	attctcatgc	tcaaccccat	gggtccaaagt	840
ctgaggaaca	aggatgtgaa	gaaaacattt	gggacttcct	catgaagggt	tacaattcct	900
ctcctt						906

<210> 403  
 <211> 972  
 <212> DNA  
 <213> Unknown (H38g252 nucleotide)

<220>  
 <223> Synthetic construct

<400> 403

atgcctctat	ttaattcatt	atgctgggtt	ccaacaattc	atgtgactcc	tccatctttt	60
attcttaatg	gaataacctg	tctggaaaga	gtacatgtat	ggatctccct	cccactctgc	120
acaatgtaca	tcattcttct	tgtggggaat	cttggctctg	tgtacctcat	ttattatgag	180
gagtccttac	atcatccgat	gtattttttt	tttggccatg	ctctctccct	cattgacctc	240
cttacctgca	ccaccactct	acccaatgca	ctctgcatct	tctgggttcag	tctcaaagaa	300
attaacttca	atgcttgctt	ggcccagatg	ttctttgttc	atgggttcac	aggtgtggag	360
tctgggggtg	tcattgctcat	ggctctagac	cgctatgtag	ccatttgcta	ccctttgcgt	420
tatgctacca	cactcaccaa	ccctatcatt	gccaaggctg	agcttgccac	cttctgagg	480
ggtgtattgc	tgatgattcc	tttcccattc	ttgggttaagc	gtttgccttt	ctgccaaagc	540
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tatgttccag	cattcttcac	tttcttttgc	caccgttttg	ggggacacac	aattccccct	840
tctcttcaca	tcattgtggc	taatctttat	cttctctctc	ccccaactct	aaacctatt	900
gtttatggag	taaagacaaa	acagatacgc	aagagtgtca	taaagttctt	ccaggggtgat	960
aagggtgcag	gt					972

<210> 404  
 <211> 821  
 <212> DNA  
 <213> Unknown (H38g253 nucleotide)

<220>  
 <223> Synthetic construct

&lt;400&gt; 404

gagagaaaatc	ccagtgtagc	agaaaagtgc	cttcaagggg	tgactgattc	ctctcaccat	60
tatcttttagc	ttaaactccct	ctcttcaggc	tgtaaatcct	cttgataact	atcattacga	120
tagggaattt	gggcacgggc	attctcattg	ggatcagtc	cggtttata	gtctgtctcg	180
cctagatttc	tgctattcac	tttttccatg	ctcagagtc	tagtaaaatg	tttttgaagt	240
acagtgtctgc	ccttctcttt	ctggagtc	gaagcacaga	ttaaactctt	cagcatcttg	300
tgtatcacag	agttcttttc	cttggccaca	atggcctatg	atgacaatgt	tgccacttgt	360
gaacctttat	tccacctttt	caccagtttg	agactcaact	ggcatttggt	tgagaaaaac	420
tgtatcttag	agccttcacc	tcagccctcc	cctcaactct	tccgttccac	ctccccttct	480
tcaattecca	cttgtgtctca	cttcagtgac	attactttct	gggtcaagtt	gtcctctgaa	540
acatgactcc	caacttttaa	ctccctgatt	tctctaactc	caatgtgaac	ttagtaagcc	600
tgtgtgtctc	aaccatctgc	tgctacccca	tcattttaag	gtcattatca	tcccataact	660
aatctgaaaa	acaaattatt	gataatcatt	ttttttcaga	attccactca	ttgtctctta	720
ttttctgttc	agatgaaaat	gtttattaaa	ccatttgagg	tatcactgac	tagttcatta	780
aaagtaaaca	ttgtgtacat	attcccttaa	tgcagattct	t		821

&lt;210&gt; 405

&lt;211&gt; 945

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g254 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 405

atgtcttctc	tcaatgtcac	tgaacccccc	ctctcttctc	tctgtttggt	taggaattcc	60
aggattggaa	gctgcacaac	gctggctagg	ctttcccttc	tgtgttgat	atctgattgc	120
tcttgttggg	aatcttatca	ttctatttgt	tatctggact	gataaaaacc	ttcaccaacc	180
catgttctac	ttcttgccca	tgctgtcagt	catgacctga	gtctttctac	atctactatc	240
cctaagatgt	tgcccatctt	ctggctcagc	cttcaggagt	tgtgctttgg	gtgctgtgtt	300
gctcaagtct	tttttatcca	tttttttggc	agtcattggg	agcattgtac	ttcttgtcat	360
gggatttgat	cgctatgtgg	ctatttgcaa	ccccctcagg	tagaccaaga	tcctcaccaa	420
cagaattact	gggtgtgattg	ctatggttgt	ggttcttaga	agcttatgta	tgattgtctc	480
catcattttt	ctcctcatga	ggctgcctta	ctgtggacat	agaatcatcc	cttataccta	540
ttgtgagcac	atgggagtg	ctcgtctggc	ttgtgccagc	atcagtgtca	atgtctctca	600
tggctctggg	aataatttta	tcttgtttct	ggatattgtt	cttatcatca	tctcctatgc	660
tgaattttta	tgcacagtct	ttcacctccc	ttcccaagag	gcccacctga	aggctcttaa	720
tacctgtagc	tcccatatct	gtgtcatctt	agcatttttt	ggcccagctc	tcttctcctt	780
tctcactcat	cgctttgggc	atggcatccc	acagtatata	catattctcc	tggctaattct	840
ctatatatag	tcattccccc	tgtctttaac	ccagtcattt	atggagttag	gaccaagcaa	900
atccaggagc	gggtagaaaag	tctcttttact	aaaaattgat	tgaat		945

&lt;210&gt; 406

&lt;211&gt; 970

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g255 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 406

gtggaaaatt	cacccatggg	gactgacttc	atctttctcg	gcatgacaga	taactctcag	60
cttgaagtc	tgctatttgg	agtctttctt	attgcttaca	tcactactgt	gttgaggaa	120
ctaggccttg	tgggtctgat	cagagtcagc	tccgcctccc	acaccccatg	tactttttcc	180
tctctaata	gtccttccct	gatgtctgtt	tctcttccat	tacaattcca	cagaatttag	240
cacatttgtt	ttctaagctg	cagtatgttt	ctttcttttt	ccgtataaac	ttaaatgagc	300
ttgtttgtaa	tctttgcctc	tgctgaatgc	aattttttta	acttgcattg	cctatgaccg	360
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tttcttggtg	gcaggatgct	accttggtgg	gttagttaag	atggtcactg	tgacaacttc	480
catcacacaa	ctatcgcttt	gtcaaccatg	tgtcctccct	gccttcttct	gtgacattcc	540

ctcattgttg	gtactgggtt	gctcagatcc	ttggatcacc	tcccgatctt	ggtgggtggc	600
tgtgggggat	tcaccctggg	cacctctgtt	gtgggtgatcc	ttgtctccta	catgtcttcc	660
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gcctcccact	tgactgctgt	tagcctgtac	tatgaaacaa	ctatgtacac	ttacttgccc	780
gcctcgcgac	atggatccgg	ggcaggaaat	cagattgtgt	cagtatttta	tacaatgggtg	840
atccccatgt	taaatacctt	catctatagt	ttgagaaatg	aggaagtga	agttgcccta	900
tgaaaaacat	tgagacatag	tccttaatat	tctattgagt	gtctcaaaaa	tgcaaatat	960
tctgtgaaga						970

&lt;210&gt; 407

&lt;211&gt; 934

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g256 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 407

tggcttgatg	aaaaaaaaaca	agatttctaac	gtgacagaac	ttgttcttct	gggcctatca	60
tcttcttggg	agctgcagct	atcttctctta	ttactatttt	tgttttttta	cattgctatt	120
gtcctgggaa	acctcttgat	agtggtaaca	gtgcaagccc	atgctcatct	gtcccaatct	180
cctatgtatt	atcttttagg	tcactctctt	ttcattgacc	tatgcctaag	ctgtgttact	240
ctgccaaaaga	tgtaggggga	tttccctacag	cagggcaaga	gcattctctt	ttcaggatgc	300
ctggcccaga	tctacttcct	ccactttcta	ggagccagtg	agatgttttt	gctgacagtt	360
atggcctatg	acaggtatgt	tgccatctgt	aaccctttgc	gctaccttat	aagtcatgaa	420
ccccagcta	tgcttttggg	tggttcttgc	ctgctgggtg	gggggtttta	tccactctat	480
catgcaggtc	atactagtca	tccagctgcc	tttctgtggc	cccaatgaac	tggacaactt	540
ctactgtgat	gtcccacagg	tcacaaagct	ggcctgcatg	gacacctatg	tggtagaggt	600
gctgatgata	gccaacagtg	gtctgctctc	tcttgctgc	ttcttgggtc	tactattctc	660
ttatgctgtc	atcctgatca	ccctgagaac	acacttcggc	cagggccaga	acaagttcct	720
ctctacctgt	gcttctcacc	tgacagtggg	cagcctgate	ttcatgccat	gtatattcat	780
ctatttgagg	cctttctgca	gcttctctgt	ggataagata	ttctccatgt	tttacacagt	840
gatgacacct	atggttagcc	ccctcatcta	cacactcaga	aatgctgata	tgaagacagc	900
tatgaagaag	ctgaggataa	aaccatgtga	catt			934

&lt;210&gt; 408

&lt;211&gt; 954

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g257 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 408

atgatgggtg	atcccaatgg	caatgaatcc	agtgtacat	acttcaccc	aataggcctc	60
cctgggttag	aagaggctca	gttctgggtg	gccttcccat	tgtgtccct	ctaccttatt	120
gctgtgctag	gtaacttgac	aatcatctac	attgtgcgga	ctgagcacag	cctgcatgag	180
cccatgtata	tattttctttg	catgttttca	ggcattgaca	tcctcatctc	cacctcatcc	240
atgcccacaa	tgctggccat	cttctgggtc	aattccacta	ccatccagtt	tgatgcttgt	300
ctgctacaga	tgtttgccat	ccactcctta	tctggcatgg	aatccacagt	gctgctggcc	360
atggcttttg	accgctatgt	ggccatctgt	caccactgc	gccatgccac	agtacttacg	420
ttgcctcgtg	tcacacaaat	tggtgtggct	gctgtgggtg	ggggggctgc	actgatggca	480
ccccttctctg	tcttcatcaa	gcagctgccc	ttctgcccgt	ccaatatcct	ttccatttcc	540
tactgcttac	accaagatgt	catgaagctg	gcctgtgatg	atatccgggt	caatgtcgctc	600
tatggcctta	tcgtcatcat	ctccgccatt	ggcctggact	cacttctcat	ctccttctca	660
tatctgctta	ttcttaagac	tgtgttgggc	ttgacacgtg	aagcccaggc	caaggcattt	720
ggcacttgcg	tctctcatgt	gtgtgctgtg	ttcatattct	atgtaccttt	cattggattg	780
tccatgggtg	atcgcttttag	caagcggcgt	gactctccgc	tgcccgtcat	cttggccaat	840
atctatctgc	tggttccctcc	tgtgtcctaac	ccaattgtct	atggagtga	gacaaaggag	900
attcgacagc	gcaccccttcg	acttttccat	gtggccacac	acgcttcaga	gccc	954

<210> 409  
 <211> 959  
 <212> DNA  
 <213> Unknown (H38g258 nucleotide)

<220>  
 <223> Synthetic construct

<400> 409  
 atgtcttcca gactaatgaa tgtgttcagc atggaaacta tcaattttgt tagctgcctt 60  
 atcctcatgg gctttccctc aagcccagaa atgcagctcc tctacttcgg tctcttctca 120  
 gtagcctata ctctcaccoc gatgggaaat gcagccattg tctgtgctgt gtggtaggac 180  
 cagcaccttc acactcccat gtacaccctc ttgggaaatt tctctctcct ggaaatatgt 240  
 tatgttactg caactaaact gctggccaac ttctcttcca caagcaagtc catctcatc 300  
 atgagttggt ttgcacagtt ctactttctc tctttggggg atgatgaggg cttcttctct 360  
 tgcatacagg cctttgacag gtatcttgcc atctgccgcc ctctacgtta tccatgcac 420  
 atgactaaac aagtatgcac tggcctcatc atttttgcgt ggtcatgtgt ctttgaatc 480  
 ttcttaactc tgggtgattct catttcacag ctatcctact gtggcccaaa tattatcaac 540  
 cattttatct gtgatcccg cccattgaag atgctgtcct gttctgaaga catcatcatc 600  
 acccagctca ttactccac attcaattct gtcttcataa ttggcacctt tctctttatc 660  
 ctttgttctt atgctctggt gattctgggt ataatacggg tgccttcaga ggctggcaaa 720  
 cgaaaagctt tctccacttg tgcctctcat ttggcagttg tcaccttatt ttatggctct 780  
 atcatggtga tgtatgtag tcctggatca gcacaccag taaaaatgaa aaaatcatta 840  
 ccttgttctt ttctgtgata acaccactct gtaatcctct aatatatagt ctcaggaaca 900  
 aagagatgaa agattatctg aggaaaatct tcaggactgg aaaagatggt aataaaata 959

<210> 410  
 <211> 926  
 <212> DNA  
 <213> Unknown (H38g259 nucleotide)

<220>  
 <223> Synthetic construct

<400> 410  
 atgctgaata caacctcagt cactgaattt ctctttttgg gaggtagaca cattcaagaa 60  
 ctgcagcctt ttctcttcgt tgttttcctt accatctact tcatcagtggt ggctgggaat 120  
 ggagccattc tgatgattgt catctctgat cctagactcc attcccctat gtatttcttc 180  
 ctgggaaacc tgctctgcct ggacatctgc tactccagcg taacactgcc aaaaatgctg 240  
 cagaacttcc tctctgcaca caaagcaatt tctttcttgg gatgcataag ccaactccat 300  
 ttcttccact tcttgggcag cacagaggcc atgttggtgg ccgtgatggc atttgaccgc 360  
 tttgtggcta tttgcaagcc acttogetac actgtcatta tgaacctca gctctgtacc 420  
 cagatggcca tcacaatctg gatgattggt tttttccatg ccctgctgca ctcctaatg 480  
 acctctcgct tgaacttctg tggttctaac cgtatctatc acttcttctg tgatgtgaag 540  
 ccattgctaa agctgagctt aatcagtggt tgctcagtag tgtcacaggg acaatcgcca 600  
 tgggcccctt ctttctcaca ttacttctct atttctacat tatcaccat ctcttcttca 660  
 agactcattc ttttagcatg ctccgcaaag cactgtccac ttgtgcctcc cacttcatgg 720  
 tagttattct tttgtatgca cctgttctct tcacctatat tcatcatgcc tcagggacct 780  
 ccatggacca ggaccggatc actgccatca tgtatactgt ggtcactcca gtactaaacc 840  
 cactgatcta cactttgagg aacaaggag tgaaaggggc ctttaataga gcaatgaaaa 900  
 ggtggccttg gcctaaagaa atcttg 926

<210> 411  
 <211> 994  
 <212> DNA  
 <213> Unknown (H38g260 nucleotide)

<220>  
 <223> Synthetic construct

<400> 411

atggaaagcg	agaacagaac	agtgataaga	gaattcatcc	tccttcggtt	gacccagttt	60
cgagatattt	agctcctggt	ctttgtgcta	gttttaatat	tctacttctt	catcctccct	120
ggaaattttc	tcattatttt	caccataagg	tcagaccctg	ggctcacagc	ccccctctat	180
ttatttctgg	gcaacttggc	cttcctggat	gcacccctact	ccttcattgt	ggctcccagg	240
atgttggtgg	acttcctctc	tgagaagaag	gtaatctcct	acagaggctg	catcactcag	300
ctctttttct	tgcacttctt	tggaggagg	gagggattac	tccttggtgt	gatggccttt	360
gaccgctaca	tcaccatctg	cctgcctctg	cagtattcaa	ctgtcatgaa	ctctagagcc	420
tgctatgcaa	tgatgttggc	tctgtggctt	gggggttttg	tccactccat	tatccagggtg	480
gtcctcatca	tccgcttgcc	tttttgtggc	ccaaaccagc	tggacaactt	cttctgtgat	540
gtccgacagg	tcattcaagct	ggcttgccac	gacatgtttg	tgggtggagct	tctgatggtc	600
ttcaatagtg	gacctgatgc	actcatgtgc	ttctctggac	ttctggcctc	ctatgcagtc	660
attctttgtc	gcatacagagc	gtcttcttct	gaggcaaaaa	acaaggccat	gtccacatgc	720
accacccata	tcattgttat	attcttctatg	tttggacctg	gcattcttcat	ctacacgtgc	780
cccttcaggg	ctttcccagc	cgacaagggtg	gtttctctct	tccacacagt	gattcttctt	840
ttgttgaatc	ctgtcattta	tacccttcat	aaccaggaag	tgaaagcttc	catgaaaaag	900
gtgtttaata	aacacatagc	ctgaaaaagg	gcaaaaaaaa	aaagaagaaa	aatagactgt	960
agaattttat	ctgaaattga	tttgtttatt	tcca			994

&lt;210&gt; 412

&lt;211&gt; 945

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g261 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 412

atggaaattg	tctccacagg	aaacgaaact	attactgaat	ttgtcctcct	tggcttctat	60
gacatccctg	aactgcattt	cttggttttt	attgtattca	ctgctgtcta	tgtcttcate	120
atcataggga	atatgctgat	tattgttagca	gtggtttagct	cccagaggct	ccacaaaccc	180
atgtatat	tcttggcgaa	tctgtccttc	ctggatattc	tctacacctc	cgcagtgatg	240
ccaaaaatgc	tggagggtct	cctgcaagaa	gcaactatct	ctgtggctgg	ttgcttgctc	300
cagttcttta	tcttcggctc	tctagccaca	gctgaatgct	tactgctggc	tgtcatggca	360
tatgaccgct	acctggcaat	ttgttaccca	ctccactacc	cactcctgat	ggggcccaga	420
cgggtacatg	ggctgggtgg	cacaacctgg	ctctctggat	ttgtggtaga	tggactgggt	480
gtggccctgg	tggcccagct	gaggttctgt	ggccccaacc	acattgacca	gttttactgt	540
gactttatgc	ttttcgtggg	cctggcttgc	tgggatccca	gagtggtcca	ggtgacaact	600
ctcattctgt	ctgtgttctg	cctcactatt	ccttttggac	tgattctgac	atcttatgcc	660
agaattgtgc	tggcagggtc	cctgagttct	gctggggcaa	gcaggagaag	ggctttctcc	720
acatgctcct	cccacctagc	tgtagtgacc	acattctatg	gaacgctcat	gatcttttat	780
gttgcaacct	ctgctgtcca	ttcccagctc	ctctccaagg	tcttctccct	gctctacact	840
gtggtcaccc	ctctcttcaa	tcctgtgatc	tataccatga	ggaacaagga	ggtgcatcag	900
gcacttcgga	agattctctg	tatcaaaaaa	actgaaacac	ttgat		945

&lt;210&gt; 413

&lt;211&gt; 936

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g262 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 413

atgagtgc	aaacacctccat	ggtgactgag	tttcttcttc	tgggtctctc	ccacctggcc	60
gacctccagg	gcttgctctt	ctctgtcttt	ctcactatct	acctgctgac	cgtggcaggc	120
aatttctctc	ttgtgggtgct	ggtctccact	gatgctgccc	tccagtcccc	tatgtacttc	180
ttcctgcgca	ccctctcggc	cttggagatt	ggctatacgt	ctgtcacggg	ccccctgcta	240
cttcaccacc	tccttactgg	cgggcgccac	atctctcgct	ctggatgtgc	tctccagatg	300
ttcttcttcc	tcttcttttg	cgccacggag	tgctgcctcc	tggcagccat	ggcctatgac	360
cgtatgcag	ccatctgtga	acccctccgc	taccactg	tgctgagcca	ccgggtgtgt	420
ctacagctag	ctgggtcggc	gtgggcctgt	gggggtgctg	tggggctggg	ccacaccct	480

ttcatcttct	ctttgccctt	ctgcgggccc	aataccatcc	cgcagttctt	ctgtgagatc	540
cagcctgtcc	tgcagctggt	atgtggagac	acctcgctta	atgaactgca	gattatcctg	600
gcaacagccc	tcctcatcct	ctgccccttt	ggcctcatcc	tgggctccta	cgggcgtatc	660
ctcgttacca	tcttcgggat	cccatctgtt	gcggggccgc	gcaaggcctt	ctccacctgc	720
tcctccacc	tgatcgtggt	ctccctcttc	tatggcacgc	cactctttat	ctatatcgc	780
cctaaggcca	gctacgatcc	ggccactgac	cctctggtgt	ccctcttcta	tgctgtggtc	840
acccccatcc	tcaaccccat	catctacagc	ctgcggaaca	cagaggtcaa	agctgcccta	900
aagagaacca	tccagaaaac	ggtgcctatg	gagatt			936

&lt;210&gt; 414

&lt;211&gt; 948

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g263 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 414

atggttaacc	aaagctcccc	catgggcttc	ctccttctgg	gcttctctga	acaccagca	60
ctggaaagga	ctctctttgt	ggttgtcttc	acttctacc	tcttgacct	ggtgggcaac	120
acactcatca	tcctgctgtc	tgtactgtac	cccaggctcc	actctccaat	gtactttttc	180
ctctctgacc	tctccttctt	ggacctctgc	tttaccacaa	gttggtgccc	ccagatgctg	240
gtcaacctct	ggggcccaaa	gaagaccatc	agcttctctg	gatgctctgt	ccagctcttc	300
atcttctctg	ccctggggac	cactgagtgc	atcctcctga	cagtgatggc	ctttgaccga	360
tacgtggctg	tctgccagcc	cctccactat	gccaccatca	tccacccccg	cctgtgctgg	420
cagctggcat	ctgtggcctg	ggttatgagt	ctggttcaat	cgatagtcca	gacaccatcc	480
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caggcagtg	tgaggattaa	ctctgccaca	gcattggagaa	aggccttttg	gacctgtctc	720
tcctatctca	ctgtgggtcac	ctctctctac	agctcagtca	ttgctgtcta	cctccagccc	780
aaaaatccgt	atgcccaagg	gaggggcaag	ttctttggtc	tcttctatgc	agtgggcact	840
ccttcaacta	accctctcgt	atacaccttg	aggaacaagg	agataaagcg	agcactcagg	900
aggttactag	ggaaggaaag	agactccagg	gaaagctgga	gagctgct		948

&lt;210&gt; 415

&lt;211&gt; 954

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g264 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 415

atgaagagcg	aactgaacag	gaattactca	gaggtgacag	agtttattct	gctgggattc	60
agaacatcgc	cagaagcaca	gattctctta	ttcttctctg	tcttgcttat	ctacatgggc	120
attgtgttga	gaaatctcag	catgttagtt	gtcattgaaa	tagactccag	acttcacaca	180
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gcttccaaaa	ctgactactt	tattttccaa	ggaaaagaaa	atttcttaca	atgggtgagc	300
aacacagttg	tttttctttg	ctctctttgt	tgggactgaa	ggtttttttc	tggatatgat	360
ggcatatgat	cgcttctcag	ctatttggtc	acctttcttc	tatactgtat	gtatgtctca	420
gcaagcttgt	gtttgtttgg	tggttggctc	ctctatctgt	ggatgcatca	actccatgat	480
acaaacaggt	tttaccttca	gtttgcattt	ctgtggagaa	aacagattag	agcacttttt	540
ctgtgatgtc	tcagtcatga	tcaagatctc	atgtattgac	atccttgtga	atgaggtagt	600
actgtttatt	ctctctgctc	tcattaccac	caccacaact	gtcattctgg	cttctctatg	660
gcatactctc	tccactgtcc	tgaagattct	ctcaaccac	ggcagaagga	agactttctc	720
cacttgacgc	tctcacatca	ctgtgggtgag	tttattctat	ggaactgtat	tcttcatgta	780
tgcccaacct	ggggccatct	ccaaagagca	aggttatagt	tgtattctaa	actcttgtca	840
tcctatgttt	aaatatctga	tttatagctc	aagaaatagg	tgcaaaatgc	tttgaaaagg	900
acattgataa	gaaaaatatc	ttttcattgg	cctctagcca	tctataaaac	tata	954

<210> 416  
 <211> 531  
 <212> DNA  
 <213> Unknown (H38g265 nucleotide)

<220>  
 <223> Synthetic construct

<400> 416  
 atgagcccaa gaatgtgcct ttcattttctg gctgttgect ggacccttgg tgtcagtcac 60  
 tccctgttcc aactggcatt tcttggttaat ttacccttct gtggccctaa tgtgttggac 120  
 agcttctact gtgaccttcc tcggcttctc agactagcct gtaccgacac ctacagattg 180  
 cagttcatgg tcaactgttaa cagtgggttt atctgtgtgg gtactttctt catacttcta 240  
 atctcctaca tcttcatcct gtttactgtt tggaaacatt cctcaggtgg ttcattccaag 300  
 gccctttcca ctctttcagc tcacagcaca gcggctcctt tgttctttgg tccacccatg 360  
 tttgtgtata catggccaca ccctaattca cagatggaca agtttctggc tatttttgat 420  
 gcagttctca ctcttttctt gaatccagtt gtctatacat tcaggaataa ggagatgaag 480  
 gcagcaataa agagagtatg caaacagcta gtgatttaca agaagatctc a 531

<210> 417  
 <211> 965  
 <212> DNA  
 <213> Unknown (H38g266 nucleotide)

<220>  
 <223> Synthetic construct

<400> 417  
 atggaagcag aaaaccttac agaattatca aaattttctc tcctgggact ctccagatgat 60  
 cctgaactgc ageccgtcct ctttgggctg ttccctgtcca tgtacctggt caccgtgctg 120  
 gggaacctgc tcatcattct ggccgtcagc tctgactccc acctccacac ccccatgtac 180  
 ttcttccctc ccaacctgct ctttgttgac atctgtttca tctccaccac agtccccaag 240  
 atgctagtga gcattccaggc acggagcaaa gacatctcct acatgggggtg cctcactcag 300  
 gtgtattttt taatgatgtt tgctggaatg gatactttcc tactggccgt gatggcctat 360  
 gaccgggttg tggccatctg ccacccactg cactacacgg tcatcatgaa cccctgcctc 420  
 tgtggcctcc tggttctggc atcttgggtc atcattttct gggtctccct gggtcatatt 480  
 ctactgatga agagggttgac cttctccaca ggcactgaga ttccgcattt cttctgtgaa 540  
 ccggctcagg tcttcaaggt ggccgtgctc aacacctcc tcaataacat tgtcttgtat 600  
 gtggccacg cactgctggc tgtgtttcct gtagctggga tctctttctc ctactctcag 660  
 attgtctcct ccttaatggg aatgtcctcc accaagggca agtacaaagc cttttccacc 720  
 tgtggatctc acctctgtgt ggtctccttg ttctatggaa caggacttgg ggtctatctg 780  
 agttctgtct tgacctatc ttcccagagc agctccaccg cctcagtgat gtacgccatg 840  
 gtcaccccca tgctgaacct cttcatctac agcctgagga acaaggatgt gaagggggcc 900  
 ctggaaagac tcttcagcag ggccgactct tgtccatgac aaatcagggc ctcagaacta 960  
 agagg 965

<210> 418  
 <211> 967  
 <212> DNA  
 <213> Unknown (H38g267 nucleotide)

<220>  
 <223> Synthetic construct

<400> 418  
 tacacagagc cagagaatct cacagggtgc ttagaattcc tgcctctggg actcccagat 60  
 gatccagaac tgcagcccg cctcttttggg ctgttctgt ccatgtacct ggtcatgggtg 120  
 ctggggaacc tgctcatcat tctggccgtc agctctgact cccatctcca cagcccatg 180  
 tacttcttcc tctccaacct gtccttggct gacatcggtt ttgcctctac tactgtcccc 240  
 aagatgattg tggacatcca ggctcatagt agactcatct cttacgtggg ctgcctgact 300  
 cagatgtcct ttttgatctt tttcgcattg atggaaagtc tgctcctgat tgtgatggcc 360

tatgaccggt	tctgtggccat	ctgtcacccc	ctgcactacc	aagtcacat	gagccccaga	420
ctctgtggct	tcttagtttt	ggtgtctttt	tttcttagcc	ttttggactc	tcagctgcac	480
aatttgattg	tgttacaact	tacctgttc	aacgatgtgg	aaatctctaa	ttttttctg	540
tgacccttct	taactttctca	agctggcctg	ttctgacacc	tccattaata	acatggttgt	600
atattttatt	ggtgccatat	ttggttttct	ccctctctta	gggacctttt	tctcttaacta	660
taaaattggt	tcctccattc	tgagagtctt	ctcttcagggt	gggaagtata	aagccttctc	720
cacctgcagc	tctcacctgt	cagttgtttg	cttactttat	ggaacagccc	ttggagggtta	780
cctcagttca	gctgtgtccc	tttctccag	gaagggtgca	gtggcctcag	taatgtacat	840
ggtggtcacc	cccagctga	acccttcat	ctacagcctg	agaaacaggg	acattcaaag	900
tgccctgcag	aggctgcacg	gcagaataat	gtaatctcct	tatctgttgc	atctttttg	960
tagtatt						967

&lt;210&gt; 419

&lt;211&gt; 924

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g268 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 419

atgagacaga	taaatacagac	acaagtgaca	gaattcctcc	ttctgggact	ctctgatggg	60
ccacacaccg	agcagctgct	atztatcgta	ttattgggtg	tctacctggg	cactgtgctt	120
ggaaatctgc	ttctaatactc	ccttggttcat	gttgactccc	aacttcacac	acccatgtat	180
ttttttctct	gcaacttgct	tctggctgac	ctctgtttct	ctaccaacat	agttcctcag	240
gcactagtcc	acctgctttc	cagaaagaag	gtcattgcat	tcacactttg	cgcagctcga	300
cttctctttt	tcctcatttt	tgggtgtacc	cagtgcgccc	ttcttgagct	gatgtcctat	360
gatcgctatg	ttgcaatctg	caatcctctg	cgttaccctg	acatcatgac	ctggaaagtg	420
tgtgtccagc	tggcaacagg	atcatggacc	agtggtcattc	tgggtgtctgt	ggtagacacc	480
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cttaaggggg	ttgtgattct	cctcatacct	gtttttctga	ttctgggtatc	ctatggccgt	660
atcatagtaa	ctgtggtcaa	gatgaagtca	actgtgggga	gtctcaaggc	attttctacc	720
tgtggctccc	acctcatggt	ggtcatactt	ttttatggat	cagcaattat	cacttacatg	780
acacccaagt	cttccaaaca	gcaggaaaaa	tcgggtgtctg	ttttctatgc	aatagtgtg	840
cccagctga	atccccctcat	ctatagcctg	agaaacaagg	atgtgaaggc	agctctgagg	900
aaagtagcca	caaggaattt	ccca				924

&lt;210&gt; 420

&lt;211&gt; 954

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g269 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 420

atgcccatac	ttatggctat	aggaaactgg	acagaaataa	gtgaatttat	cctcatgagc	60
ttctcttccc	tacctactga	aatacagtc	ttgctcttcc	tgacatttct	aactatctat	120
ttggttactc	tgaaggga	cagcctcatc	attctgggtta	ccctagctga	ccccatgcta	180
cacagcccca	tgtacttctt	cctcagaaac	ttatctttcc	tggagattgg	cttcaacct	240
gtcattgtgc	ccaaaatgct	ggggaccctg	cttgcccagg	acacaacccat	ctccttctt	300
ggctgtgcca	ctcagatgta	tttcttcttc	ttctttgggg	tagctgaatg	cttctcctg	360
gctaccatgg	catatgaccg	ctatgtggcc	atctgcagtc	ccttgcaact	cccagtcac	420
atgaaccaaa	ggacacgggc	caaactggct	gctgcttctt	ggttcccagg	ctttctctgta	480
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agcctcacct	acttctggcc	taaatcaaat	aattctcctg	agagcaagaa	gttggttatca	840

ttatcctaca ctgttgtgac tcccatgttg aaccccata tctacagctt gagaaatagc 900  
gaggtgaaga atgccctcag caggaccttc cacaaggctc tagccctcag aaac 954

<210> 421

<211> 780

<212> DNA

<213> Unknown (H38g270 nucleotide)

<220>

<223> Synthetic construct

<400> 421

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aaccttaatg	gatgtgacaa	gaccatcagc	tacatgggct	gtgccatcca	gctcttctctg	120
ttcctgggtc	tgggtgggtg	ggagtgcctg	cttctggctg	tcatggccta	tgaccgggtg	180
gtggctatct	gcaagcccc	gcactacatg	gtgatcatga	acccagggct	ctgccggggc	240
ttgggtgtcag	tgacctggag	ctgtgggggtg	gccaaactcct	tggccatgtc	tcctgtgacc	300
ctgcgcttac	cccgtctgtg	gcaccacgag	gtggaccact	tcctgcgtga	gatgccccgc	360
ctgatccgga	tggcctgcgt	cagcactgtg	gccatcgaag	gcaccgtctt	tgtcctggcg	420
gtgggtgttg	tgctgtcccc	cttgggtgtt	atcctgctct	cttacagcta	cattgtgagg	480
gctgtgttac	aaattcggtc	agcatcagga	aggcagaagg	ccttcggcac	ctgcggctcc	540
catctcactg	tggctctccct	tttctatgga	aacatcatct	acatgtacat	gcagccagga	600
gccagttctt	cccaggacca	gggcatgttc	ctcatgctct	tctacaacat	tgtcaccccc	660
ctcctcaatc	ctctcatcta	caccctcaga	aacagagagg	tgaagggggc	actgggaagg	720
ttgcttcttg	ggaagagaga	gctaggaaag	gagtaaaggc	atctccacct	gacttcactt	780

<210> 422

<211> 985

<212> DNA

<213> Unknown (H38g271 nucleotide)

<220>

<223> Synthetic construct

<400> 422

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tggacatcca	gtctcacagc	agagtcactt	cctatgcggg	ctgcctgact	cagatatctc	300
tttttgtgtg	ttttggatgc	atggaagaca	tgcttctgag	tgtgatgggt	tatgaccggg	360
ttgtggccat	ctgtcaccc	ctggattatc	cagtcacat	gaacccatgt	ttctgtgggt	420
tcctggtttt	gttgtctttt	ttttctcagt	cttttagact	tccagctgca	caattggatt	480
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gctgccatac	ttggttttct	tcccatctcg	gggatctttt	ctcttactat	aaaattgttt	660
cctccattct	gaaggtttca	tcatcagggtg	ggaagtataa	agccttctcc	acctgtgggt	720
ctcacctgtc	agttgtttgc	ttattttatg	gaacagccct	tggaggggtac	ctcagttcag	780
acatgtcctc	ttatcccaga	aagggtgcag	tggcttcagt	gatgtacaca	gtgggtcgccc	840
ccatgctgaa	cccgttcac	tacagcctga	gaaaaagggg	cattaaaagt	gccctgcagc	900
agctgcatgg	cagaatagtc	taatctcatg	atcttattat	cggttccatt	cttttagcatg	960
ggttggaaaa	ggcagcaagg	tcaaa				985

<210> 423

<211> 963

<212> DNA

<213> Unknown (H38g272 nucleotide)

<220>

<223> Synthetic construct

&lt;400&gt; 423

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attgtgggca	atataactat	tctgggtgtt	gttgccactg	aaccagtctt	gcacaagcct	180
gtgtaccttt	ttctgtgcat	gctctcaacc	atcgacttgg	ctgcctctgt	ctccacagtt	240
cccaagctac	tggctatctt	ctgggtgtgga	gccggacata	tatctgcctc	tgcctgcctg	300
gcacagatgt	tcttcattca	tgccttctgc	atgatggagt	ccactgtgct	actggccatg	360
gcctttgatc	gctacgtggc	catctgccac	ccactccgct	atgccacaat	cctcactgac	420
accatcattg	cccacatagg	ggtggcagct	gtagtgcgag	gctccctgct	catgtcccca	480
tgtcccttcc	ttattgggcg	tttgaacttc	tgccaaagcc	atgtgatcct	acacacgtac	540
tgtgagcaca	tggctgtggt	gaagctggcc	tgtggagaca	ccaggcctaa	ccgtgtgtat	600
gggctgacag	ctgcaactgt	ggtcattggg	gttgacttgt	tttgacttgg	tctctcctat	660
gccctaagtg	cacaagctgt	ccttcgcctc	tcaccccatg	aagctcggtc	caaggcccta	720
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atccgtaaaa	gagttgtcag	ggtgtttcaa	agtgggcagg	gaatgggcat	caaggcatct	960
gag						963

&lt;210&gt; 424

&lt;211&gt; 982

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g273 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 424

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cctgctcctg	cgccactaca	ggtactattg	tttgcccttt	tgctgctggc	ctatgtgttg	120
gtgctgactg	agaacacact	catcattatg	gcaattagga	accattccac	cctccacaaa	180
cccatgtact	tttttctagc	taatattgtc	tttctggaga	tctgggtatg	cactgtcact	240
attcccaaga	tgcttgctgg	ctttgttggg	tccaaacagg	atcatggaca	gctaattctc	300
tttgagggat	gcatgacaca	gctctacttt	ttccttggct	tgggctgcac	tgagtgtgtc	360
cttctcgctg	ttatggccta	tgatcgctat	atggccatct	gctatcctct	ccactaccca	420
gtcattgtca	gtggccggct	gtgtgtgcag	atggctgctg	gctcttgggc	tggagggttt	480
ggcatctcca	tggtcaaagt	ttttcttatt	tctggcctct	cttactgtgg	ccccaacatc	540
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gccagtatct	tcacttatgc	tggccaaaag	gcactctcag	cttttgacac	caacaagttg	840
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aatcaagagg	tcaagagagc	cctatgctgt	actctgcacc	ctgtaccagc	accaggatcc	960
tgaccccaag	aaagctagca	ga				982

&lt;210&gt; 425

&lt;211&gt; 936

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g274 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 425

atggaagcag	gaaaccaaac	aggattttta	gagtttatcc	ttctcggact	ctctgaggat	60
ccagaactac	agccgttcat	atltgggctg	ttcctgtcca	tgtacctggt	gacggtgctg	120
ggaaaacctgc	tcatactcct	ggccatcagc	tctgactccc	acctccacac	ccccatgtac	180
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gtctattttt	ccatgttttt	tcctattctg	gacacgctac	tcctgaccgt	gatggcctat	360

gaccggtttg	tggtgtgtctg	ccaccctctg	cactatatga	tcacatgaa	ccccacctc	420
tgtggcctcc	tggtttttgt	cacctggctc	attgggtgtca	tgacatccct	cctccatatt	480
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gtcaccacca	tggtgaaccc	cttcactctac	agcctgagga	acaaggatgt	gaaggaggcc	900
ctggggagtc	tcctcagcag	ggcagcctct	tgtttg			936

&lt;210&gt; 426

&lt;211&gt; 960

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g275 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 426

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ggcatggagg	acaaacacag	atggatatct	atccccctct	cctccatgta	tttcattatg	120
gtgcttgagg	actgcacat	cctcctcacc	atctccacag	agcgctccct	gcacaaaccc	180
atgttctctg	tcctctgtct	gttggccctc	acagacctgg	gcatgtctac	aaccaccatt	240
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gttcagctgt	tccttcacca	ctccatctct	gccatgcagt	cagctgtcct	gatgaccatg	360
gcctttgacc	actatgtggc	catctgcaag	cccttgcgct	atgccaccat	cctttccaat	420
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tctgggacaa	agtgacacaa	taggggtgct	ggaaagaaga	accacacacc	actgaccatg	960

&lt;210&gt; 427

&lt;211&gt; 948

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g276 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 427

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agtgggtctc	ctgaactgct	ctgtgctaca	attacaatcc	tatacttggt	ggccctgac	120
agcaatggcc	tactgtctct	ggctatcacc	atgggaagcc	ggctccacat	gcccattgtac	180
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gtgatgggtg	tgaccttctt	gattccctct	cttgctgcta	tactggcctc	ctatacacaa	660
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ttgaggaggg tcctgggaaa atacatgctg ccagcacact ccacgctc

948

<210> 428

<211> 936

<212> DNA

<213> Unknown (H38g277 nucleotide)

<220>

<223> Synthetic construct

<400> 428

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gggaacctgc	tcattcatcct	ggccgtcaac	tctgactccc	acctccacac	ccccatgtac	180
ttcctcctct	ctatcctgtc	cttgggtcgac	atctgtttca	cctccaccac	gatgcccaga	240
atgctgggtga	acatccaggc	acaggctcaa	tccatcaatt	acacaggctg	cctcacccaa	300
atctgctttg	tcctgggttt	tggtggattg	gaaaatggaa	ttctgggtcat	gatggcctat	360
gatcgatttg	tggccatctg	tcaccactg	aggtacaaatg	tcattcatgaa	ccccaaactc	420
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agttctgggg	ctaccactc	ctccaggaag	ggtgcaatag	catcagtgat	gtataccgtg	840
gtcaccccca	tgctgaaccc	actcatttac	agcctgagaa	acaaggacat	ggtgaaggct	900
ttgaggaaac	taatatctag	gataccatct	ttccat			936

<210> 429

<211> 984

<212> DNA

<213> Unknown (H38g278 nucleotide)

<220>

<223> Synthetic construct

<400> 429

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gctgcaaaca	ccctcatcct	catcatcatc	tgccagaacc	cttctttaca	gcagcccatg	180
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aacatcatcc	ccccttccct	caaccctaca	gtttatgcac	ttcagaccaa	agaacttagg	900
gcagccttcc	aaaagggtgt	gtttgcctt	acaaaagaaa	taagatctta	gagaccttct	960
ccatgatgta	catgaacctc	agct				984

<210> 430

<211> 947

<212> DNA

<213> Unknown (H38g279 nucleotide)

<220>

## &lt;223&gt; Synthetic construct

&lt;400&gt; 430

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agtgggtctc	ctgaactgct	ctatgctaca	tttacaatcc	tatacatggt	ggcactgacc	120
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gccttgcgga	ctttctgcgc	agagaaaaca	ctatctcctt	tggaggctgt	gcacttcaga	300
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tcctattcac	tgtgcttctg	atgccatcaa	atgaggggag	gaagaaagcc	cttgtcacct	720
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&lt;210&gt; 431

&lt;211&gt; 897

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g280 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 431

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atcatcactg	aatcttttgt	tttcaaagca	aatgggttca	tggcactgag	aaacagcctg	420
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aatagcatta	accaggctcct	tttggcttgg	acactcatgg	gaagtgcact	gggtttgatt	600
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aacaaggaac	tcaggcaagg	cttatacaag	gtacttagac	tgggagtga	gggcacc	897

&lt;210&gt; 432

&lt;211&gt; 980

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g281 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 432

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cggctcctgc	gccactacag	gtactatcgt	ttgcccgta	gtccgcggcc	tatgcgttgg	120
tgctgactga	gaacacactc	atcattatgg	caagtaggaa	ccattccacc	ctccacaaac	180
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tttgagggat	gcatgacaca	gctctacttt	ttccttggct	tgggctgcac	tgagtgtgtc	360
cttctcgctg	ttatggccta	tgatcgctat	atggccatct	gctatcctct	ccactacca	420

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cgctataagg	ccttttccac	ctgtgcctct	catctcactg	ttgtgataat	cttctatgca	780
gccagtatct	tcctctatgc	tcgccaaagg	cactctcagc	ttttgacacc	aacaagttgg	840
tctctgtact	gtatgctgtc	attgtaccat	tgctcaatcc	catcatttac	tgcttgcgca	900
atcaagaggt	caagagagcc	ctatgctgta	ctctgcacct	gtaccagcac	caggatcctg	960
acccaagaa	agctagcaga					980

&lt;210&gt; 433

&lt;211&gt; 998

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g282 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 433

atggatggag	agaatcactc	agtgggtatct	gagtttttgt	ttctgggact	cactcattca	60
tgggagatcc	agctcctcct	cctagtgttt	tctctgtgc	tctatgtggc	aagcattact	120
ggaaacatcc	tcattgtgtt	ttctgtgacc	actgaccctc	acttacactc	ccccatgtac	180
tttctactgg	tcagtctctc	cttcattgac	ttaggagcct	gctctgtcac	ttctcccaag	240
atgatttatg	acctgttcag	aaagcgcaaa	gtcatctcct	ttggaggctg	catcgctcaa	300
atcttcttca	tccacgtcat	tggtggtgtg	gagatgggtgc	tgctcatagc	catggccttt	360
gacagttatg	tggccctatt	aagccctctc	actatctgac	cattatgagc	ccaagaatgt	420
gcctttcatt	tctggctgtt	gcctggaccc	ttgttgtcag	tcactccctg	ttccaactgg	480
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ttctgaatcc	agttgtctat	acattcagga	ataaggagat	gaaggcagca	ataaagagag	900
tatgcaaaca	gctagtgtat	tacaagaaga	tctcataaat	gatacaataa	gcccttctcg	960
ttaaacaatga	tatggcttta	tgtttctttc	tttgcata			998

&lt;210&gt; 434

&lt;211&gt; 840

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g283 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 434

atgctgctgg	gcaacctggc	catcatcagc	ttcatttgcc	ttgattcccg	ccttcactca	60
cccatgtact	tcttccctctg	caacttctcc	ctcatggaga	tggtgggtcac	ctccactgtg	120
gtacatagga	tgctggcaga	cctgctatcc	actcacaaga	ccatgtccct	ggccaaatgc	180
ctaaccaggt	ctttctttta	cttctccctg	ggctctgcca	acttctctgat	actcatggtc	240
atggccctttg	atcgctacgt	ggccatctgc	caccctctgc	gctacccaac	catcacgaat	300
gggtccagtg	gtgtgaagct	gggtgggtggc	tggtgggtgg	ttgggtttcct	ctccattgtc	360
tctccacac	tcagaaaaac	acgactctgg	ttctgtggcc	ctaacaatcat	cggccactac	420
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ttctccacct	gtgctctca	cctcacagt	gtggttctgg	gctatggcag	tgccatcttc	660
atctacgtga	ggccaggcaa	gggccaactcc	acatacctca	acaaggcggt	ggccatgggtg	720
actgcaatgg	taaccctttt	cctcaacccc	ttcatcttca	ccttccggaa	tgagaagggtc	780
aaggagggtca	ttgaggatgt	gactaaaagg	atcttccctg	gagaccacgc	agcctgtagg	840

<210> 435  
 <211> 939  
 <212> DNA  
 <213> Unknown (H38g284 nucleotide)

<220>  
 <223> Synthetic construct

<400> 435  
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 ccagaggtcc aactagtcct atttgttata tttctatcct tctatttggt catcctacca 120  
 ggaaatatcc ttatcatttg caccatcagt ctagaccctc atctgacctc tccatgtgat 180  
 ttctgtgttg ctaatctggc ctcccttgat atttgggtact cttccattac agccccgtgaa 240  
 atgctcatag acttcttctg ggagaggaag ataatttctt ttgatggatg cattgcacag 300  
 ctcttcttct tacacttttg tgggggttcg gagatgttct tgctcacagt gatggccttt 360  
 gacctctaca ctgctatctg ccgacccctc cactatgcta ccatcatgaa tcaacgtctc 420  
 tgctgtatcc tgggtggctct ctctggagg ggggggttca ttcatctctat catacagggtg 480  
 gctctcattg ttcgacttcc tttctgtggg cccaatgagt tagacagtta cttctgtgac 540  
 atcacacagg ttgtccggat tgctgtgccc aacaccttcc cagaggagt agtgatgac 600  
 tgtagtagtg gtctgatctc tgtgggtgtg ttgattgtct tgtaaatgtc ctatgccttc 660  
 cttctggcct tgttcaagaa actttcaggc tcagggtgaga ataccaacag ggccatgtcc 720  
 acctgctatt ccacacattac cattgtgtgtg ctaatgtttg ggccatccat ctacatttat 780  
 gctcgcccat ttgactcgtt tcccttagat aaagtgggtg ctgtgttcaa tactttaata 840  
 ttccctttac gtaatcccat tatttacaca ttgagaaaca aggaagtaaa ggcagccatg 900  
 aggaagttgg tcaccaaata tattttgtgt aaagagaag 939

<210> 436  
 <211> 640  
 <212> DNA  
 <213> Unknown (H38g285 nucleotide)

<220>  
 <223> Synthetic construct

<400> 436  
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 cattaaaagc ctggtatcta ttgttctcct tgtctctgag tctattcttt gggtttggac 120  
 aggtgagtgt gtttctcaca atgacacaga gtgtactgtg aatgagcctg ttgtcttcat 180  
 gttctcctag atgcccttct gcctcagcta gatcttgccc tagacctact atgagcaagt 240  
 ggtcatgctg aatctggtat gtgcagacat cacatatata gtccatacct gtggtctctt 300  
 atggcctttt ctgtggatgg atttgatata tttggcatta ttatccacag atatcagaca 360  
 ttgcaggctg tactgtagct acctgcaaaa gaatctgtgc ccaaagtatt tagcatatat 420  
 gccttccata tttgcgtcac cctgtacctg ctcatgatag gattctactc ctttttttct 480  
 tgttgcttta gctaccata actcacagt attcccatct ccttgctcat ctttttactc 540  
 attagtgcct tccatgttca ataccatcac ctgtgggta aagagtaagc atatccaaga 600  
 aaacatggta cagagatttt gtgggaaaat ttctgacct 640

<210> 437  
 <211> 989  
 <212> DNA  
 <213> Unknown (H38g286 nucleotide)

<220>  
 <223> Synthetic construct

<400> 437  
 atgtgtctct tgaccttgca ggtcactggc ccaatgaatg tctctgagcc aaattccagc 60  
 ttgtctttag taaatgaatt tatactccaa gatttatctt ttgagtggac aattcagatc 120  
 ttctcttct cactcttcac tacaacatat gcactgacca taacaggaaa cggagccatt 180  
 gcttgcgccc tgtggtgtga ccggcgacgt cacactccca tgtacatgtt cctgggaaat 240

ttctcctttt	tagagatatg	gtatgtctct	tctacagttc	ccaagatggt	ggtcaacttc	300
ctttcagaga	aaaaaaccat	ctccttttgt	ggatgttttc	tccaatttta	tttcttcttc	360
tctttgggta	catctgaatg	cttgattttg	actgtgatgg	cctttgatca	gtaccttggt	420
atctgccatc	ccttgcaacta	tcctaataaa	tcattgactgg	gcattctctgt	gccaaactgg	480
tcatactgtg	ctgggtttgt	ggattttctgt	gtttcctgat	ccccactgtt	ctcatctctc	540
agatgccctt	ctgtgggtcca	aacattaatg	accatgttgt	gtgtgaccca	gggccactat	600
ttgcattggc	ttgtgtctct	gccccaaaga	tccaactgtt	ttgctacact	ctaagctcat	660
tagttatttt	tggttaacttc	ctctttatta	ttggatccta	tactcttgte	ctgaaagctg	720
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gacactctat	ggggatgcag	aaaatcaaaa	ctttgttcta	tgctatgggt	acccactct	900
tcaatcccct	tatctatagc	ctccagaata	aggagataaa	ggcagccctg	aggaaagttc	960
tggggagtgc	caacataatc	taagccata				989

&lt;210&gt; 438

&lt;211&gt; 930

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g287 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 438

atgatggaca	accactctag	tgccactgaa	ttccaccttc	taggcttccc	tgggtcccaa	60
ggactacacc	acattctttt	tgctatatcc	ttttcttctc	atttagtgac	attaatggga	120
aacacgggtc	tcattgtgat	tgtctgtgtg	gataaacgtc	tgcagtcccc	catgtatttc	180
tccctcagcc	acctctctac	cctggagatc	ctggtcacaa	ccataattgt	ccccatgatg	240
ctttggggat	tgctcttcc	gggatgcaga	cagtatcttt	ctctacatgt	atcgctcaac	300
ttttcctgtg	ggaccatgga	gtttgcatta	cttggagtgga	tggctgtgga	ccgttatgtg	360
gctgtgtgta	accctttgag	gtacaacatc	attatgaaca	gcagtacctg	tatttgggtg	420
gtaatatgtg	catgggtgtt	tggatttctt	tctgaaatct	ggcccatcta	tgccacattt	480
cagtttacct	tccgcaaatc	aaattcatta	gaccattttt	actgtgaccg	agggaatttg	540
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tttattctca	ttggttcttt	gatccctacg	attgtctcct	acacctacat	tatctccacc	660
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ttcacctgtg	ttgtgattgg	ctatggcagc	tgcttgtttc	tctacgtgaa	acccaagcaa	780
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ctgaatcctt	tcattctttac	tcttcggaat	gacaaagtca	aagaggccct	ccgagatggg	900
atgaaacgct	gctgtcaact	cctgaaagat				930

&lt;210&gt; 439

&lt;211&gt; 915

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g288 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 439

atgtccaaca	caaattggcag	tgcaatcaca	gaattcattt	tacttgggct	cacagattgc	60
ccggaactcc	agtctctgct	ttttgtgctg	tttctgggtg	tttacctcgt	cacctgtcta	120
ggcaacctgg	gcatgataat	gttaatgaga	ctggactctc	gccttcacac	gccccatgac	180
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tacattttca	ttgcccttct	actcactgag	ttttacatgc	tggcagcaat	ggcctatgac	360
cgctatgtgg	ccatatatga	ccctctgcgc	tacagtgtga	aaacgtccag	gagagtgtgc	420
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ggttcccata	tgatggctgt	caccctgttt	tatgggactc	tcttttgcac	gtatataaga	780
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agtcgggtac	ttaatccatt	gatctacagt	ctgaggaata	aagatgtgaa	gcaggccttg	900
aagaatgtcc	tgaga					915

&lt;210&gt; 440

&lt;211&gt; 939

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g289 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 440

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ctgcaggccc	ttctgtatgg	ccccttcttc	atgctttatc	ttctcgccct	catgggaaac	120
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ttccactttt	ccctgggggc	cacctccttc	ctcatcctga	cagacatggc	ccttgatcgc	360
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gggcagatgc	agaggctgaa	aggcctttgc	aaggcaca			939

&lt;210&gt; 441

&lt;211&gt; 948

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g290 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 441

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caagatatcc	agctcttggg	ctttgtgctg	atcttaattt	tctaccttat	catcctccct	120
ggaaattttc	tcattatttt	caccataagg	tcagaccctg	ggctcacagc	ccccctctat	180
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ctctttttct	tgcaacttct	tgaggagggg	gagggattac	tccttgttgt	gatggccttt	360
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ttgatgaate	ctatgattta	tacccttcgc	aaccaggaag	tgaaaacttc	catgaagagg	900
ttattgagtc	gacatgtagt	ctgtcaagtg	gattttataa	taagaaac		948

&lt;210&gt; 442

&lt;211&gt; 1034

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g291 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 442

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gggctggagc	atgcccata	atggatatct	gtcccatct	gcctcatgta	cttggtagcc	120
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gctcaagaat	tctttattca	tggattcaca	gatatggagt	cctcagtgc	tctcgctatg	360
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agacacagca	aattcatgaa	aaagttttag	gaaaactggg	tctacaacaa	cggtgtcagt	1020
aaacgtggta	caag					1034

&lt;210&gt; 443

&lt;211&gt; 713

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g292 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 443

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&lt;210&gt; 444

&lt;211&gt; 931

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g293 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 444

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ggaatgcaat	tgatgttctt	tgtcttattt	ctcctcttct	acgtcgtgat	catggtggga	120
aatttgctca	ttttgcttat	ggctctttct	gactcccgac	tacacacacc	catgtatttc	180
ttcctcagta	acctgtcttt	tgtggacatt	gctgttctct	cagccacagc	acccaagatg	240
attgaagact	ttgtttctga	gaaaaagact	atttcttact	ggggctgtat	aactcagatg	300
tttaccttcc	acttttttgg	ttgtgctgag	atttttgttt	tgactgtcat	ggctttttag	360

cgtatgctg	ctatctgcca	acccctccgt	tacactgtca	tcatgagtgc	taatgcttat	420
actgtgctgg	catcactgtc	ctgggtgggg	gccctgggtc	attcctttgt	tcagaccctc	480
ctgaccttcc	agctgccctt	ctgtaatgct	caggttatag	accattactt	ttgtgatgtc	540
caccagtc	taaaacttgc	ctgtgctgat	acaactctgg	taaatatgtt	ggtgggtgcc	600
aacagtggtc	tcattctcct	ggggtgttcc	ctcattcttt	tggcctccta	cacagtcatt	660
ctgttttagtc	ttcaaaaaca	gtctgcagag	agctgacaca	aagttctctc	tacctgtgga	720
tctcatctga	ctatagtaac	tttcttcttt	gttccgtgta	tctttattta	tctccatcca	780
ctactttccc	attggataaa	gctgtgtctg	tgttctatac	caccatcacc	ccaatgctga	840
accactcat	ctatactctg	aggaatgagg	agtaaagaat	gccatgaggc	ggctatggag	900
tagcaagatc	tccttgaagg	aaaagcagag	a			931

&lt;210&gt; 445

&lt;211&gt; 968

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g294 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 445

atggaaatcc	taagcaactc	aacatctaaa	tttccaacct	tcttggtgac	cggcattcct	60
ggcctagagt	ctgcccattg	ctggatctcc	attcctttct	gctgttttta	tgccattgcc	120
ctctctggga	acagcgtgat	cctgtttgtc	atcattaccc	agcagagtct	ccatgaaccc	180
atgtattatt	tcctctccat	gctatcagcc	actgatctgg	gcttgactgt	ttcttcattg	240
tcaacaacat	taggtatcct	ctgggttgag	gcagtgaat	cagtctatac	agctgcattg	300
tccagatgtt	tttcttccat	ggattcactt	ttatggaatc	tggagtgtctg	gtggctacag	360
cctttgaccg	ttatgtggcc	atctgtgatc	ctctgaggta	cactaccatt	ctcactaatt	420
ccagaatcat	tcaaattggg	cttctgatga	ttacacgtgc	tatagtacta	atattaccac	480
tacttttgct	ccttaagcct	ctctatttct	gtagaatgaa	tgccctttct	cactcctatt	540
gttaccatcc	agatgtgatt	caattagcat	gttcagacat	tggggcaaat	agcatctgtg	600
gattaattga	tctcatcctg	accactggaa	tagatacacc	atgcattgtc	ctgtcatata	660
tcttaattat	tcgctttgtc	ctcagaattg	cctcccctga	agaatggcac	aaggctctca	720
gcacctgtgt	ctcccacgtg	ggagcagttg	cttcttctta	catccacatg	ctgagcctgt	780
ccttggtgta	tcgctatggg	cggtcagccc	ccagagtagt	ccattcagtg	atggctaacg	840
tatacctgct	tttaccctct	gtgctcaacc	ccatcatcta	cagtgtaaaa	acaaaacaaa	900
tccgcaaggc	tatgctcagt	ctgctgctta	caaatgaac	agacatagtt	ttatttgata	960
caaacctg						968

&lt;210&gt; 446

&lt;211&gt; 963

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g295 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 446

cacacagagc	cacggaatct	cacaggtgtc	tgagaattcc	tcctcctggg	actctcagag	60
gaccagaac	tgcagcctat	cctcgctttg	ctgtccctgt	ccctgtccat	gtatctgggc	120
acgggtgctga	ggaacctgct	cagcatcctg	gctgtctgct	ctgactcccc	cctccacacc	180
cccaggtact	tcttcctctc	caacctgtgc	tgggctgaca	tgggtttcac	ctccgccacg	240
gttcccaaga	tgattgtgga	catgcagtcg	catagcagag	tcacgtctca	tgccggctgt	300
ctgacgcaga	tgtctttctt	ggctcttttt	gcattgtatg	aaggcatgct	cctgactgtg	360
atggcctatg	actgctttgt	agccatctgt	cgccctctgc	actaccaggt	catcgtgaat	420
cctcacctct	gtgtcttcgt	tttggtgtcc	ttttctctta	gcctgttgga	ttcccagctg	480
cacagttgga	ttgtgttaca	attcaccatc	gtctagaatt	tggaaatctc	taattttgtc	540
tgtgaccctc	ctcaacttct	caaacttgcc	tgttctgaca	gcgtcatcaa	tagcatattc	600
atatattttcg	atagtactat	gttttggtttt	cttcccattt	cagggatcct	atgggtcttac	660
tataaaatca	tcccctccat	tctaaggatt	tcactgtcag	atgggaagta	taaagccttc	720
tccacctgtg	gctctcacct	agccgttggt	tgctgatttt	atggaacagg	cattggcatg	780
tacctgactt	cagctgtgtc	acaaccccc	aggaatgggt	tggtggtcatc	agtgatgtat	840

gctgtggtca ccccatgct gaaccttttc atctacagcc tgagaaacag gaacatacaa	900
agtgcctgt ggaggctgca cagcagaaca gtcgaatctc atgatttgtt ccatcetttc	960
tct	963

&lt;210&gt; 447

&lt;211&gt; 975

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g296 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 447

atggcaatat tcaataacac cacttcgtct tctcaaact tcctcctcac tgcattccct	60
gggctggaat gtgctcatgt ctggatctcc attccagtct gctgtctcta caccattgcc	120
ctcttgggaa acagtatgat ctttcttgct atcattacta agcggagact ccacaaaccc	180
atgtattatt tcctctccat gctggcagct gttgatctat gtctgacct tacgaccctt	240
cccactgtgc ttggtgttct ctggtttcat gccggggaga tcagctttaa agcttgcttc	300
attcaaagt tctttgtgca tgctttctcc ttgctggagt cctcgggtgt ggtagccatg	360
gcctttgacc gcttcgtggc tatctgtaac ccactgaact atgctactat cctcacagac	420
aggatgggtcc tggatagagg gctggtcac tcgattagac cagcagtttt ctacttccc	480
cttctttagtag ccataaacac tgtgtctttt catgggggtc acgagctttc ccatccattt	540
tgctaccacc cagaagtgat caaatacaca tattccaaac cttggatcag cagtttttgg	600
ggactgtttc ttcagctcta cctgaatggc actgacgtat tgtttattct tttctcctat	660
gtcctgatcc tccgtactgt tctgggcatt gtggcccgaa agaagcaaca aaaagctctc	720
agcacttggt tctgtcacat ctgtgcagtc actattttct atgtgccact gatcagcctc	780
tctttggcac accgctctt ccactccacc ccaaggggtc tctgtagcac tttggccaat	840
atztatctgc tcttaccacc tgtgctgaac cctatcattt acagcttgaa gaccaagaca	900
atccgccagg ctatgttcca gctgtcccaa tccaagggtt catggggttt taatgtgagg	960
ggtcttaggg gaaga	975

&lt;210&gt; 448

&lt;211&gt; 945

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g297 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 448

atggagacgt gggatgaacca gtcctacaca gatggcttct tcctcttagg catcttctcc	60
cacagtactg ctgacctgt cctcttctcc gtggttatgg cggctctcac agtggccctc	120
tgtgggaatg tcctcctcat ctccctcatc tacatggacc ctacacctca ccccccatg	180
tacttcttcc tcagccagct ctccctcatg gacctcatgt tggctgtac caatgtgcca	240
aagatggcag ccaacttct gtctggcagg aagtccatct cctttgtggg ctgtggcata	300
caaattggcc tctttgtctg tcttgtggga tctgaggggc tcttgctggg actcatggct	360
tatgaccgct atgtggccat tagccaccca ctccactatc ccctcctcat gaatcagagg	420
gtctgtctcc agattactgg gagctcctgg gcctttggga taatcgatgg cttgatccag	480
atgggtgtag taatgaattt cccctactgt ggcttgagga aggtgaacca tttcttctgt	540
gagatgctat ccttgttgaa gctggcctgt gtagacacat ccctgtttga gaaggtgata	600
tttgcttget gtgtcttcat gcttctcttc ccattctcca tcatcgtggc ctctatgct	660
cgcatcttag ggactgtgt gcaaatgcac tctgtcagg cctggaaaaa ggccctggcc	720
acctgtcct cccacctgac agctgtcacc ctctctatg gggcagccat gttcatctac	780
ctgaggccta ggcaactacc ggccccccagc catgacaagg tggcctctat cttctacag	840
gtccttactc ccatgtcaa cccctcatt tacagcttga ggaacagggg ggtgatgggg	900
gcactgagga aggggctgga ccgctgcagg atcggcagcc agcac	945

&lt;210&gt; 449

&lt;211&gt; 965

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g298 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 449

atgtcaccac	tcaaccaaac	tactgagaac	caccagagct	tcttcaccct	gactgggatt	60
ccaggaatgc	cagagaaaga	cttatggatg	gccttgcccc	tctgtcttct	ttatagcacc	120
acgatcttgg	gaaatgtcac	catccttgtt	gtcatcaaag	ttgagcaaag	tctccatgag	180
cccatgtatt	tttctagcca	tgttagctgc	cactgacctc	agcctttcac	tgtcttccat	240
gcctaccatg	gtcagtgttc	actggttcaa	ctggcgttca	ataactttta	atggctgcct	300
tatccagatg	ttcttcatcc	acacatttgg	gggagtggaa	tcaggtgttc	tggtggccat	360
ggcctttgat	cgctttgtgg	ccatccgctt	tcctttgcac	tatgctacaa	ttctcactca	420
cagtgtcatc	agcaagattg	cagcagccat	cctgctacgg	agtgtggggg	ctgtgctccc	480
tgtgcctttt	ctcatcaaaa	ggttaccttt	ctgtcactcc	aatgtcctct	cccatgcata	540
ctgcctccat	caggatgcca	tgaggcttgc	ctgtgctgac	actgggtgtca	atagcatcta	600
tggcctgttg	gctgtgatct	tcatcattgt	actagatgcc	ttaatacttt	tggcctctta	660
cattctaate	ctgcaggcag	tattgagcat	tgcttcccag	gaagacaggc	tcaaggctct	720
caacacctgt	ctctctcata	tctgcagtgc	tgcttttcta	tgtgcctctc	attggatatga	780
ccctaattca	tcgctatggg	aagcatttgt	caccactaat	acacacattc	atggccaata	840
tctacctgct	tctccctcct	gtgctcaatc	ccattgtgta	cagtgttagg	accaagcaga	900
tctgatagca	gattgtccag	gccttttgtg	gggctagggt	tagcccttaa	tggcatctac	960
tattt						965

&lt;210&gt; 450

&lt;211&gt; 936

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g299 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 450

atgtctgttc	tcaataactc	cgaagtcaag	cttttccttc	tgattgggat	cccaggactg	60
gaacatgccc	acatttgggt	ctccatcccc	atttgccctc	tgtacctgct	tgccatcatg	120
ggcaactgca	ccattctctt	tattataaag	acagagccct	cgcttcatga	gcccattgat	180
tatttccttg	ccatgttggc	tgtctctgac	atgggcctgt	ccctctcttc	ccttcttacc	240
atgttgaggg	tcttcttgtt	caatgccatg	ggaatttcac	ctaatgcctg	ctttgtctca	300
gaattcttca	ttcatggatt	cactgtcatg	gaatccctcag	tacttcta	tatgtctttg	360
gaccgctttc	ttgccattca	caatccctta	agatcacagt	ctatccctac	tagcaacagg	420
gttgctaaaa	tgggacttat	tttagccatt	aggagcattc	tcttagtgat	tccatttccc	480
ttcaccttaa	ggagattaaa	atattgtcaa	aagaatcttc	tttctcactc	atactgtctt	540
catcaggata	ccatgaagct	ggcctgctct	gacaacaaga	ccaatgtcat	ctatggcttc	600
ttcattgctc	tctgtactat	gctggacttg	gcactgattg	ttttgtctta	tgtgctgac	660
ttgaagacta	tactcagcat	tgcatctttg	gcagagaggc	tttaaggccct	aaatacctgt	720
gtctcccaca	tctgtgctgt	gtcacccttc	tatgtgccc	tcataccct	ggctgccatg	780
catcactttg	ccaagcaca	aagccctctt	gttgtgatcc	ttattgcaga	tatgttcttg	840
ttggtgccgc	cccttatgaa	ccccattgtg	tactgtgtaa	agactcgaca	aatctgggag	900
aagatcttgg	ggaagttgct	taatgtatgt	gggaga			936

&lt;210&gt; 451

&lt;211&gt; 923

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g300 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 451

atgaaaataa	atgacagctc	aggggaagac	ttcatcttag	ttggcttctc	agaatatccc	60
caggctgagt	tcatactttc	tctgtttgtc	tccgggttct	acaccatgac	attcacaggg	120
aacacagcca	tcattcttgg	ctctctgctg	gactaccggc	tccgcacccc	aatgtacttc	180

ttctccgaa	agctctcatt	tctggacatg	tgtttcacca	cctgcattgt	ccttcagatg	240
ctggtgaaca	tctggggaga	gagtaagaag	gtcagctatg	taggctgcat	gggttcagtat	300
tctgtagcct	tggtctcttg	ctccacagag	tggtgtgcttc	ttgctatcat	ggctgtggac	360
cgttatgttg	ccgtccgctg	gccccctcac	tatgttacaa	tcatgcacca	acagatctgc	420
cactttctcg	cagccttgtc	ctggttttct	gggttagcca	actctctctt	tcactcttca	480
ctaaccacca	ttttgcctct	gtgtggccac	cgccgtgtgg	accatttctt	tgtgaggtcc	540
tgctcattgt	caagctgtcc	tgcgtggaca	ccggcccaac	tgaattgaag	atgttaattg	600
ctcgtgtgat	catccttgcc	cttccagtgt	gcaccatcct	cacctcctat	gcctgcattg	660
ccagggtgtg	gctgaggctg	cagtctgctg	aaggtcagca	gaaggccttt	gggacttgtg	720
cctcccacct	gatgggtggc	ttgctgttct	atggaaccat	catgttcatg	tgtcttcagc	780
tgaagagtaa	ctactctcag	attcagggaa	agctgcttcc	tcttgtttat	accattgctg	840
cccccaccta	gaacccacta	atctatgcac	tgaggaacaa	agttgtaaag	agggcaattg	900
gaaaattgat	ctggaaggat	tca				923

&lt;210&gt; 452

&lt;211&gt; 951

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g301 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 452

atggaaatag	ataaccagac	gtgggtgaga	gaatttattc	tccttggctt	atccagtgc	60
tggtgcactc	agatatccct	gttttccctg	ttcttgggtc	catacctcat	gacagtgtctg	120
gggaactgtc	tcattgtcct	tctgatcaga	ctggacagcc	gactccacac	tcccatgtat	180
ttctttctca	ccaacctctc	ccttgctgat	gtctcctatg	ccacaagcgt	agtccccag	240
ctgctggcac	attttcttgc	agaacataaa	gccatcccat	tccagagctg	tgcagcccag	300
ttatttttct	ccctggcctt	gggtgggatt	gagtttgttc	tcctggcagt	gatggcctat	360
gaccgccatg	tggtgtgtc	tgaccgcctg	cgatactcgg	ccatcatgca	tggagggtctg	420
tgtgttaggt	tggccatcac	atcctgggtc	agtggctcca	tcaactctct	tgtgcagact	480
gctatcacct	ttcagctgcc	catgtgcact	aacaagttta	ttgatcacat	atcctgtgaa	540
ctcctagctg	tggtcaggct	ggcttgtgtg	gacacctcct	ccaatgaggc	tgccatcatg	600
gtgtctagca	ttgttcttct	gatgacacct	ttctgcctgg	ttctgttgtc	ctacatccgg	660
atcatctcca	ccatccataaa	gatccagtcc	agagaaggaa	gaaagaaagc	cttccacacg	720
tgtgcctctc	acctcacggg	ggttgccctg	tgtacgggca	caacgatttt	cacttacatc	780
cagccccact	ctggctccctc	agtccttcaa	gagaagctga	tctctgtctt	ctatgccatt	840
gttatgcctc	tgtgaaacct	agtctaatga	ataaagaggt	gaagggggcc		900
tggcataaac	tattagagaa	attctctgtgg	ttaacatcca	agctgggaac	t	951

&lt;210&gt; 453

&lt;211&gt; 918

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g302 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 453

atggaaggga	aaaatcaaac	caatatctct	gaatttctcc	tcctgggctt	ctcaagttgg	60
caacaacagc	aggtgctact	ctttgcactt	ttcctgtgtc	tctatttaac	agggctgttt	120
ggaaacttac	tcattcttgc	ggccattggc	tcggatcact	gccttcacac	acccatgtat	180
ttcttccctg	ccaatctgtc	cttggtagac	ctctgccttc	cctcagccac	agtccccaa	240
atgtactga	acatccaaac	ccaaacccaa	accatctcct	atccccgctg	cctggctcag	300
atgtatttct	gtatgatgtt	tgccaatatg	gacaattttc	ttctcacagt	gatggcatat	360
gaccgttacg	tggccatctg	tcacccttta	cattactcca	ccattatggc	cctgcgcctc	420
tgtgcctctc	tggtagctgc	accttgggtc	attgccattt	tgaacctctc	cttgcacact	480
cttatgatgg	cccatctgca	cttctgctct	gataatgtta	tcaccatttt	cttctgtgat	540
atcaactctc	tcctccctct	gtcctgttcc	gacaccagtc	ttaatcagtt	gagtgttctg	600
gctacgggtg	ggctgatctt	tgtggtacct	tcagtgtgta	tcctgggtatc	ctatatcctc	660
attgtttctg	ctgtgatgaa	agtccttctc	gccaaggaa	aactcaaggc	tttctctacc	720

tgtggatctc	accttgccctt	ggtcattctt	ttctatggag	caaacacagg	ggcttatatg	780
agccccccttat	ccaatcactc	tactgaaaaa	gactcagccg	catcagtcac	ttttatgggt	840
gtagcacctg	tggtgaatcc	attcatttac	agtttaagaa	acaatgaact	gaagggggact	900
ttaaaaaaga	ccctaagc					918

&lt;210&gt; 454

&lt;211&gt; 933

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g303 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 454

atgggaccca	gaaaccaaac	agctgtttca	gaattttcttc	tcataaaagt	gacagaggac	60
ccagaactga	agttaatccc	tttcagccctg	ttcctgtcca	tgtacctggg	caccatcctg	120
gggaacctgc	tcattctcct	ggctgtcacc	tctgactccc	acctccacac	ccccatgtac	180
ttccttctct	ttaatctctc	ctttactgac	atctgtttta	ccacaaccac	agtcccaaag	240
atcctagtga	acatccaagc	tcagaatcag	agtatcactt	acacaggctg	cctcaccag	300
atctgtcttg	tcttggtttt	tgctggcttg	gaaagttgct	ttcttgcagt	catggcctac	360
gaccgctatg	tggccatttg	ccacccactg	aggtagacag	tcctcatgaa	tgccatttc	420
tggggcttgc	tgattcttct	ctccatgttc	atgagcacta	tggatgccct	ggttcagagt	480
ctgatgggat	tgcagctgtc	cttctgcaaa	aacgttgaaa	ttcctttggt	cttctgtgaa	540
gtcgttcagg	tcatacaagc	cgctgttct	gacacctca	tcaacaacat	cctcatatat	600
tttgcaagta	gtgtatttgg	tgcaattcct	ctctctggaa	taattttctc	ttattctcaa	660
atagtcacct	ctgttctgag	aatgccatca	gcaagaggaa	agtataaagc	gttttccacc	720
tgtggctgtc	acctctctgt	tttttccctg	ttctatggga	cagcttttgg	gggtgtacatt	780
agttctgctg	ttgctgagtc	ttcccgaatt	actgctgtgg	cttcagtgat	gtacactgtg	840
gtccctcaaa	tgatgaaccc	cttcatctac	agcctgagaa	ataaggagat	gaagaaagct	900
ttgaggaaac	ttattggtag	gctgtttcct	ttt			933

&lt;210&gt; 455

&lt;211&gt; 939

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g304 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 455

atggaagcga	gaaaccaaac	agctatttca	aaattccttc	tcctggggact	gatagaggat	60
ccggaactgc	agcccgctct	tttcagccctg	ttcctgtcca	tgtacttggg	caccatcctg	120
gggaacctgc	tcatectctt	ggetgtcacc	tctgactctc	acctccacac	ccccatgtac	180
ttcttctctt	ccaatctctc	ctttttggac	atttggttaa	gcacaaccac	gatcccaaag	240
atgctgggtga	acatccaagc	tcagaatcgg	agcatcacgt	actcaggctg	cctcaccag	300
atctgctttg	tcttggtttt	tgctggcttg	gaaaattgtc	tccttgcagc	aatggcctat	360
gaccgctatg	tggccatttg	tcacccccctt	agatacacag	tcatacatgaa	cccccgccctc	420
tgtggcctgc	tgattcttct	ctctctgttg	actagtgttg	tgaatgccct	ttttctcagc	480
ctgatgggtg	tgaggctgtc	cttctgcaca	gacctggaaa	ttccgctctt	cttctgtgaa	540
ctggctcagg	tcatecaact	cacctgttca	gacacctca	tcaataacat	cctgatatat	600
tttgagcctt	gcataatttg	tggtgttctt	ctgtctggaa	tcattttgtc	ttacactcag	660
atcacctcct	gtgttttgag	aatgccatca	gcaagtggaa	agcacaaagc	agtttccacc	720
tgtgggtctc	acctctccat	tgttctcttg	ttctatgggg	cagggttggg	gggtgtacatt	780
agttctgtgg	ttactgactc	acctaggaag	gctgcagtgg	cttcagtgat	gtattctgtg	840
ttccctcaaa	tggtgaaccc	ctttatctat	agtctgagga	ataaggacat	gaaaggaacc	900
ttgaggaagt	tcatagggag	gataccttct	cttctgtgg			939

&lt;210&gt; 456

&lt;211&gt; 939

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g305 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 456

atggaaccaa	gaaaccaa	cagtgc	caattcat	tcctgggact	ctcagaaaag	60
ccagagcagg	agacgcttct	cttttccctg	ttcttctgca	tgtacctggt	catggtcgtg	120
gggaacctgc	tcatcatcct	ggccatcagc	atagactccc	acctccacac	ccccatgtac	180
ttcttcctgg	ccaacctgtc	cctgggtgat	ttctgtctgg	ccaccaacac	catccctaag	240
atgctggtga	gccttcaa	cgggagcaag	gccatctctt	atccctgctg	cctgatccag	300
atgtacttct	tccatttctt	tggcatcgtg	gacagcgtca	taatcgccat	gatggcttat	360
gaccggttcg	tggccatctg	ccacccattg	cactacgcca	agatcatgag	cctacgcctc	420
tgtcgctcgc	tggtcggcgc	cctctgggcg	ttttcctgct	tcattctact	cactcacatc	480
ctcctgatgg	cccgctctgt	tttctggcgc	agccatgagg	tgccctacta	cttctgcgac	540
ctcactccca	tcctccgact	ttcgtgcacg	gacacctctg	tgaataggat	cttcatcctc	600
attgtggcag	ggatgggtgat	agccacgccc	tttgtctgca	tcctggcctc	ctatgctcgc	660
atccttgtgg	ccatcatgaa	ggccccctct	gcaggcgcca	ggaagaaagc	cttctccacc	720
tgcagctccc	acctgtctgt	ggttgctctc	ttctatggga	ccaccattgg	cgtctatctg	780
tgtccctcct	cggctctcac	cactgtgaag	gagaaagctt	ctgcggtgat	gtacacagca	840
gtcaccccca	tgctgaatcc	cttcatctac	agcttgagga	acagagacct	gaaaggggct	900
ctcaggaagc	tggtaacag	aaagatcacc	tcattcttc			939

&lt;210&gt; 457

&lt;211&gt; 295

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g306 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;221&gt; misc\_feature

&lt;222&gt; (1)...(295)

&lt;223&gt; n = A,T,C or G

&lt;400&gt; 457

atgtcagcct	ccagtatcac	ctcaacacat	ccaacttctt	tcttggtgat	ggggattcca	60
ggcctggagc	acctgcacat	ctggatctcc	atccccctct	cagcatatac	actggccctg	120
cttggaacct	gcactctcct	tctcatcatc	caggctgatg	cagccctcca	tgaacccatg	180
tacctcttct	tggccatggt	ggcagccatc	gaccagctct	ctatctctct	agcactgccc	240
ccgggacaga	cggtgattct	ggttcacgga	tengaagaat	aaaccctttg	ccggg	295

&lt;210&gt; 458

&lt;211&gt; 960

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g307 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 458

atgccatctg	cctctgccat	gatcattttc	aacctgagca	gttacaatcc	aggacccttc	60
attctggtag	ggatcccagg	cctggagcaa	ttccatgtgt	ggattggaat	tcctttctgt	120
atcatctaca	ttgtagctgt	tgtgggaaac	tgcaccttc	tctacctcat	tgtgggtggag	180
catagtcttc	atgaacctat	gttcttcttt	ctctccatgc	tggccatgac	tgacctcatc	240
ttgtccacag	ctgggtgtgc	taaagcactc	agtatctttt	ggctaggggc	tcgcgaaatc	300
acattcccag	gatgccttac	acaaatgttc	ttccttctact	ataactttgt	cctggattca	360
gccattctga	tggccatggc	atttgatcac	tatgtagcta	tctgttctcc	cttgagatat	420
accaccatct	tgactcccaa	gaccatcatc	aagagtgtca	tgggcatctc	ctttcgaagc	480
ttctgcatca	tcctgccaga	tgtattcttg	ctgacatgcc	tgccctttctg	caggacacgc	540
atcatacccc	acacatactg	tgagcatata	ggtgttgccc	agctcgccctg	tgctgatatc	600
tcocatcaact	tctgggtatgg	cttttgtgtt	cccatcatga	cggtcacctc	agatgtgatt	660

ctcattgctg	tttctacgc	acacatcctc	tgtgctgtct	ttggccttcc	ctcccaagag	720
gcctgccaga	aagccctcgg	cacttgtggt	tctcatgtct	gtgtcatect	catgttttat	780
acacctgctt	ttttctccat	cctcgcccat	cgttttgac	acaatgtctc	tcgcaccttc	840
cacatcatgt	ttgccaatct	ctacattggt	atcccacctg	cactcaacct	catggtttac	900
ggagtgaaga	ccaagcagat	cagagataag	gttatacttt	tgttttctaa	gggtacagga	960

&lt;210&gt; 459

&lt;211&gt; 936

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g308 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 459

atgagcggga	caaaccagtc	gagtgtctcc	gagttcctcc	tcctgggact	ctccaggcag	60
ccccagcagc	agcatctcct	ctttgtgttc	ttcctcagca	tgtacctggc	cactgtcctg	120
gggaacctgc	tcatactcct	gtccgtaagc	atagactcct	gcctgcacac	ccccatgtac	180
ttcttctca	gcaacctgtc	ttttgtggac	atctgtctct	ccttcaccac	cgtccccaag	240
atgctggcca	atcacatact	cgagactcag	accatctcct	tctgtggctg	tctcacacag	300
atgtatttcg	ttttcatgtt	cgtggacatg	gacaatttcc	tcctagctgt	gatggcctat	360
gaccactttg	tcgccgtgtg	ccacccttta	cattacacag	caaagatgac	ccatcagctc	420
tgtgccctgc	tggttgctgg	attatgggtg	gttgccaacc	tgaatgtcct	tctgcacacc	480
ctgctgatgg	ctccactctc	attctgtgca	gacaatgcc	tcactcactt	cttctgcgat	540
gtgactcccc	tactgaaact	ctcctgctca	gacacacacc	tcaatgaggt	cataatcctt	600
agtgaggggtg	ccctgggtcat	gatcacccca	tttctttgca	tcctggcttc	ttatatgcac	660
atcacctgca	ctgtcctgaa	ggtcccatcc	acaaagggaa	ggtggaaagc	cttctccacc	720
tgtgggtctc	acctggctgt	ggttctctct	ttctacagca	ccatcattgc	tgtgtatttt	780
aacctctctgt	cctcccactc	agctgagaaa	gacactatgg	ctactgtgtt	gtatacagta	840
gtgactccca	tgctaaaacc	tttcatctac	agcctgagga	acagggtactt	gaaaggggct	900
ctgaaaaaag	tagttggcag	ggtgggtgtt	tctgtc			936

&lt;210&gt; 460

&lt;211&gt; 762

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g309 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 460

atgtacttct	tcctgcgcca	actctcagtg	gtggagctct	tctacaccac	tgacatcgtg	60
cccaggaccc	tggccaatct	gggtcccccg	catccccagg	ccatctcttt	ccagggtctg	120
gcagcccata	tgtacgtctt	cattgtcctg	ggcatctcgg	agtgtgcct	gctcactgcc	180
atggcctatg	accgatatgt	tgccatctgc	cagccctac	gctattccac	cctcttgagc	240
ccacggggcct	gcatggccat	ggtgggtacc	tcctggctca	caggcatcat	cacggccacc	300
acccatgcct	ccctcatctt	ctctctacct	tttcgcagcc	accgatcat	cccgcacttt	360
ctctgtgaca	tcctgccagt	actgaggtcg	gcaagtgtcg	ggaagcacag	gagcgagatc	420
tcctgtgatga	cagccaccat	agtcttcatt	atgatccctt	tctctctgat	tgtcacctct	480
tacatccgca	tcctgggtgc	catectagca	atggcctcca	cccagagccg	ccgcaaggctc	540
ttctccacct	gctcctccca	tctgtctcgt	gtctctctct	tctttggaac	agccagcatc	600
acctacatcc	ggcgcgagcg	aggctcctct	gttaccacag	accgcgtcct	cagtctcttc	660
tacacagtca	tcacaccat	gctcaacccc	atcatctaca	cccttcggaa	caaggacgtg	720
aggagggccc	tgcgacactt	ggtgaagagg	cagcgccctt	ca		762

&lt;210&gt; 461

&lt;211&gt; 998

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g310 nucleotide)

&lt;220&gt;

## &lt;223&gt; Synthetic construct

## &lt;400&gt; 461

atggatggag	agaatcactc	agtgggtatct	gagttttt	gttctgggact	cactcattca	60
tgggagatcc	agctcctcct	cctagtgttt	tctctgtgc	tctatgtggc	aagcattact	120
ggaaacatcc	tcattgtgtt	ttctgtgacc	actgaccctc	acttacactc	ccccatgtac	180
tttctactgg	tcagtctctc	cttcattgac	ttaggagcct	gctctgtcac	ttctcccaag	240
atgatttatg	acctgttcag	aaagcgcaaa	gtcatctcct	ttggaggctg	catcgctcaa	300
atcttcttca	tccacgtcat	tgggtggtgtg	gagatgggtg	tgctcatagc	catggccttt	360
gacagttatg	tggccctatt	aagcccctcc	actatctgac	cattatgagc	ccaagaatgt	420
gcctttcatt	tctggctgtt	gcctggaccc	ttgttgtcag	tcactccctg	ttccaactgg	480
catttcttgt	taatttacc	ttctgtggcc	ctaagtgtgt	ggacagcttc	tactgtgacc	540
ttcctcagct	tctcagacta	gcctgtaccg	acacctacag	attgcagttc	atggtcactg	600
ttaacagtgg	gtttatctgt	gtgggtactt	tcttcatact	tctaactctc	tacgtcttca	660
tctgtttac	tgtttggaaa	cattcctcag	gtgggttcac	caaggccctt	tccactcttt	720
cagctcacag	cacagcggtc	cttttgttct	ttgggtccacc	catgtttgtg	tatacatggc	780
cacaccctaa	ttcacagatg	gacaagtctc	tggtatcttt	tgatgcagtc	ctcactcctt	840
ttctgaatcc	agttgtctat	acattcagga	ataaggagat	gaaggcagca	ataaagagag	900
tatgcaaaca	gctagtgtat	tacaagaaga	tctcataaat	gatacaataa	gcccttctcg	960
ttaaacaatga	tatggcttta	tgtttctttc	tttgatat			998

## &lt;210&gt; 462

## &lt;211&gt; 933

## &lt;212&gt; DNA

## &lt;213&gt; Unknown (H38g311 nucleotide)

## &lt;220&gt;

## &lt;223&gt; Synthetic construct

## &lt;400&gt; 462

atggaagagt	acaacacatc	ctctacagac	ttcactttca	tggggctgtt	caacagaaag	60
gaaacctcag	gtcttatttt	tgccatcatc	tctatcatct	tcttcaccgc	actgatggcc	120
aatgggggta	tgatcttctc	gatccaaaca	gatttgccgc	ttcatacacc	catgtacttc	180
ctcctcagcc	acctttcctt	aattgacatg	atgtatattt	ccactattgt	gcctaagatg	240
ctgggttaatt	acctgctgga	tcaaaggacc	atttcctttg	tgggggtgcac	agctcaacac	300
ttcctctacc	ttacccttgt	gggagctgaa	ttcttctctg	tgggcctcat	ggcctatgac	360
cgtatgtggg	ccatttgcaa	ccctctgaga	taccctgtcc	tcatgagccg	ccgggtctgt	420
tggatgatta	tagcaggttc	ctgggttggg	ggctctttgg	atggcttctc	cctaaccctc	480
atcaccatga	gctttccctt	ctgcaattcc	cgggagatta	accacttctt	ctgcgaggca	540
ccagcagtc	tgaagtggc	atgtgcagac	acagccctct	acgagacagt	gatgtatgtg	600
tgctgtgttt	tgatgctgct	gattcctttc	tctgtagtcc	ttgcttctta	tgcccgaatc	660
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tcatcccaca	tgactgtggt	gtccttgttc	tacggggctg	ccatgtacac	ctacatgctg	780
ccacattctt	accacaagcc	agcccaggac	aaagtccctc	ctgtgtttta	caccattctc	840
acacccatgc	tgaacccctc	catctacagc	cttagaaaca	aggatgtgac	tggagctctg	900
aagagggcct	tggggagggt	caagggtcct	caa			933

## &lt;210&gt; 463

## &lt;211&gt; 883

## &lt;212&gt; DNA

## &lt;213&gt; Unknown (H38g312 nucleotide)

## &lt;220&gt;

## &lt;223&gt; Synthetic construct

## &lt;400&gt; 463

atccaatgca	agggctaata	gaagtgaatt	aagacattct	ctgtaactcc	aatatttaa	60
ggaaaccggg	aaatagccag	attcctctcc	aacctgtcct	tggtggcat	cggtttcccc	120
tccaccatag	tctccaagat	gattgtggac	atccagctc	acagcagagt	catctcctat	180
gcgggctgcc	tgactcaggt	atctcttttt	gccgtttttg	gatgcatgga	agacatgctt	240
ctgagtgtga	tggcttatga	ccggtttgtg	gacatctgtc	acctcttgga	ttatccagtc	300

atcatgaacc	catgtttctg	tggttcccta	gttttggtgt	ctttttttct	cagtctttta	360
gactcccage	tgcacaattg	gattgcetta	caaattacct	gcttcaagga	tgtggaaatt	420
cccaatttct	tctgtgacct	ttctcaactc	ccccaccctt	gcctgttggt	acaccttcac	480
caatgacata	gtcatgtatt	tccttgctgc	catatttggg	tttcttccca	tttcggggcc	540
ttttctctta	ctataaaatt	gtttccctca	ttctgagggt	ttcatcatca	gggtgggaagt	600
ataaagcctt	ctccacctgt	ggctctcacc	tgctcagttgt	ttgcttattt	tatggaacag	660
gctttggagg	ggacctcagt	tcagacatgt	cctcttatcc	cagaaaaggt	gcagtggcct	720
cagtgatgta	cacgggtggt	actcccatgc	tgaaccatt	catttacagc	ctaacaggga	780
aattaaaagt	gccctgcggc	agctgcactg	cagaatagtc	taatctcatt	ttcttattat	840
ctgttccatt	ccttccgtag	tgtgagttag	aaaaggcagc	aag		883

&lt;210&gt; 464

&lt;211&gt; 942

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g313 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 464

atgaccctgg	gatccctggg	aaacagcagc	agcagcggtt	ctgctacctt	cctgctgagt	60
ggcatccctg	ggctggagcg	catgcacatc	tggatctcca	tcccactgtg	cttcatgtat	120
ctggtttcca	tcccgggcaa	ctgcacaatt	ctttttatca	ttaaaacaga	gcgctcactt	180
catgaacctt	tgtatctctt	cctgtccatg	ctggctctga	ttgacctggg	tctctccctt	240
tgcactctcc	ctacagtcct	gggcactctt	tgggttggag	cacgagaaat	tagccatgat	300
gcctgctttg	ctcagctctt	tttcattcac	tgcttctcct	tcctcgagtc	ctctgtgcta	360
ctgtctatgg	cctttgaccg	ctttgtggct	atctgccacc	ccttgcaacta	tgtttccatt	420
ctcaccaaca	cagtcattgg	caggattggc	ctggctctct	tgggtcgtag	tgtagcactc	480
atttttccat	taccttttat	gtcaaaaga	ttcccctatt	gtggctcccc	agttctctca	540
cattcttatt	gtctccacca	agaagtgatg	aaattggcct	gtgccgacat	gaaggccaac	600
agcatctacg	gcatgtttgt	catcgtctct	acagtgggta	tagactcaact	gtcctatcctc	660
ttctcttatg	ctctgatcct	gcgcaccgtg	ctgtccatcg	cctccagggc	tgagagattc	720
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attggcctct	ctgtcatcca	tcgctttgga	aagcaggcac	cccacctggg	ccagggtgggc	840
atgggtttca	tgtatcttct	ctttctctct	gtgatgaatc	ccattgtcta	cagtgtgaag	900
accaaacaga	tccgggtagc	agtgcacgat	gccttttggt	ac		942

&lt;210&gt; 465

&lt;211&gt; 990

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g314 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 465

atgggactct	tcagacaatc	caaacatcca	atggccaata	tcacctggat	ggccaaccac	60
actggatggg	cggatttcat	cctgttgagg	ctcttcagac	aatccaaaca	tccagcacta	120
ctttgtgtgg	tcatttttgt	ggttttctct	atggcggttg	ctggaaatgc	tgtcctgate	180
cttctgatac	actgtgacgc	ccacctccac	acccccatgt	actttttcat	cagtcaattg	240
tctctcatgg	acatggcgta	cattttctgtc	actgtgcccc	agatgtcctt	ggaccagggtc	300
atgggtgtga	ataagatctc	agccccctgag	tgtgggatgc	agatgttctt	ctacgtgaca	360
ctagcaggtt	cagaattttt	ccttctagcc	accatggcct	atgaccgcta	cgtggccatc	420
tgccatcttc	tccgttaccc	tgtcctcatg	aaccataggg	tgtgtctctt	cctgtcatca	480
ggctgctggt	tcctgggctc	agtggatggc	ttcacattca	ctcccatcac	catgaccttc	540
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acccctgaga	aggacatgat	ggtatctgtc	ttctatacca	tcctcactcc	agtgggtgaac	900

cctttaatct atagtcttag gaataaggat gtcattggggg ctctgaagaa aatgttaaca 960  
gtggaacctg cctttcaaaa agctatggag 990

<210> 466

<211> 591

<212> DNA

<213> Unknown (H38g315 nucleotide)

<220>

<223> Synthetic construct

<400> 466

gctgccatgg	cttaagaccg	gtacatagca	atctgtaacc	cgctgctcta	tacagtgatt	60
atgtccaaga	aggtttgtg	ccagcttgca	attggagcat	ttttgggggg	cactatgagc	120
tcaattattc	ataccacgaa	cactttccat	ctgtcattct	gctccagaga	tattaaccat	180
ttcttttgtg	atatctcccc	actcttctct	ctgtcctgca	ctgacacata	catgcatgac	240
atcattctgg	tggctcttgc	cagttttgtg	gaagcaatct	gtcttctatc	agttctcctt	300
tcttatgtct	tcattatggc	agctattctt	agaacagggt	ctgtggaggg	aagaagaaga	360
gggttctcca	cttgtgcttc	ccacctgact	gtggtcacta	tgtatcatgg	taccttgatc	420
ttcatttatt	tgcgtccag	cactggccat	tactggata	ttgacaaagt	gacctctgtg	480
ttctatactt	tgattatacc	tatgttgaac	cctctaattt	acagtctaag	gaacaaagat	540
gtcaaaaatg	cttttagaaa	agtgattggc	cgaaaattac	ttccttaagg	t	591

<210> 467

<211> 938

<212> DNA

<213> Unknown (H38g316 nucleotide)

<220>

<223> Synthetic construct

<400> 467

atgatgactc	ttaagaactg	cactgtgttt	actgacttta	tattcttagg	actttcagggt	60
acacaggata	tacagcagg	gctctttgtg	cttttcttcc	tgatttatgg	cataactgtg	120
attgtcaatc	tagggatgat	cctactgatc	aagatggatc	tcagacttca	cacaccctgt	180
tattatttcc	tgagcaattt	gtctttctgt	gatgtctget	actcttccac	gtctctccca	240
aatgctagct	gatttcttat	cggaccaaaa	gtggattccg	tataatttat	gtgccattca	300
gatgtattta	tttggagtct	ttgcagatgt	ggaatgtctc	atggtggctg	tcattggccta	360
tgatcggtat	gttgccattt	gcaatccact	tctttatacg	atcactatgc	ccaggaggat	420
ctgcaccag	ctagtggctc	ttgcctatgt	tgtaggtttg	gtggattctg	caatccacac	480
ctgctgcaca	ttcagattgt	cattctgcaa	ttctaattgc	atcaatcact	ttttctgtga	540
catccccacc	ttgctagccc	tcaatccctac	tattaattgc	tattaatgag	atagtgatgt	600
tcacattcgt	tggctgtgtt	gcgggggtgca	gcattgtcac	tgtcttctct	tcctacagct	660
acatcataat	taccatcctt	aaaatgagct	cagctgaggg	cagacggaaa	gccttctctc	720
cctgcacctc	ccacttgatg	gccgtggctg	tatttcatgg	cacactcctg	ttcatgtatt	780
tcgacccag	ttcaagttac	tcaatggaaa	cagacaaaaat	ggcctctgtt	ttctacacag	840
ttgtcatacc	tatgttaa	ccactgatct	acagcttaag	gaatagggat	gtgaaagggtg	900
ctctgaaaaa	agcaataagc	actaaattat	attctgtg			938

<210> 468

<211> 969

<212> DNA

<213> Unknown (H38g317 nucleotide)

<220>

<223> Synthetic construct

<400> 468

atgtcaacat	taccaactca	gatagcccc	aatagcagca	cttcaatggc	ccccaccttc	60
ttgctgggtg	gcatgccagg	cctatcagggt	gcacctctct	ggtggacatt	gccccctatt	120
gctgtctacc	ttctctctgc	actgggaaat	ggcaccatcc	tctggatcat	tgccctgcag	180

cccgcctgc	accgccaat	gcattcttc	ctctcttgc	ttagtggtgc	tgatattgga	240
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cctgcctcag	cctgecttct	acagatggtt	tttatccatg	tcttttctgt	catggagtcc	360
tctgtcttgc	tcgccaatgc	cattgatcgg	gcactggcca	tctgccgacc	tctccactac	420
ccagcgctcc	tcaccaatgg	tgtaattagc	aaaatcagcc	tggccatttc	ttttcgatgc	480
ctgggtctcc	atctgcccct	gccattcctg	ctggcctaca	tggcctactg	cctcccacag	540
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actcttctat	cctatgtcca	tttcttctt	cctccattga	taaaccctat	tctctatagt	900
gtcaagatga	aggagattag	aaagagaata	ctcaacaggt	tgcagcccag	gaagggtgggt	960
ggtgctcag						969

&lt;210&gt; 469

&lt;211&gt; 384

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g318 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 469

tctcgctcag	atacacaggt	caatgagtta	gtgttattca	ccgtcttttg	ttttattgaa	60
ctgagtagca	tttcaggagt	tttcatttct	tattgttata	tcacccctatc	agtcttggag	120
atacactctg	ctgaggggag	gttcaaagct	ctctctacat	gcacttccca	cttatctgag	180
gttgcaattt	tccaggggaa	tctgtctctt	atgtatttcc	ggccaagtgc	ttcctattct	240
ctagatcaag	ataaaatgac	ctcattgttt	tacacccttg	tgggtcccat	gttgaacccc	300
ctgatttata	gcctgaggaa	caaggatgtg	aaagaggccc	tgaaaaaact	gaaaaataaa	360
attttatttt	aaggaaatag	taaa				384

&lt;210&gt; 470

&lt;211&gt; 946

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g319 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 470

atgtttctgc	tcaatacctc	agaagttgaa	gtctccacat	tcctattgat	tgggatacca	60
ggacttgagc	atgcacacat	ttggatctct	atccccatct	gccttatgta	cctcatggcc	120
atcctgggca	actgcacat	cctatttgtt	atcagaacag	agcattccct	gcaagagccc	180
atgtactatt	tcctctccat	gctggccctg	tcgacctgg	gcctgtcttt	ctcctcccta	240
cccacgatgc	tgagaatctt	cttgttcaac	aacatgggga	tttctgctga	tacatgcatt	300
gcccaggaat	tcttcatcca	tggattcaca	gacatggagt	cttcagttct	cctaatacatg	360
tcctttgatc	acttagtagc	catttgcaac	cccctaagat	atagctctat	tctcaccagc	420
ttcaggggtt	tgcaaattgg	actggctttt	gccattaaaa	gcattctcct	agtgtacccc	480
cttttacttt	aaagagactc	agatactgta	ataaacacct	tttatcccac	tcctactgcc	540
ttcaccagga	tgtaatgaag	ctggcctgct	ctgacaacag	ggttaacttt	tactatgggt	600
tggtcgttgc	actctgcatg	atgtcagaca	gtgtttttat	tgctatttcc	tatatgtgtt	660
catcctgaag	actgtgttgg	gtattgcac	ccatggggag	tgccctgaag	ctcttgacac	720
ctgtgtgtct	catatctgtg	ctgtactcgt	cttctatgtg	cccatcatca	ccttggctac	780
catgcgtcgc	tttgctaagc	ataaatcccc	tttagctatg	attctgatag	cagatgcatt	840
cttgtctggt	ccacccttga	tgaatcccat	tgtgtattgt	gtaaaaactc	ggcagattag	900
agtaaaggtc	ctggaaaaat	tggctctgaa	gcctaaatga	tggggc		946

&lt;210&gt; 471

&lt;211&gt; 942

&lt;212&gt; DNA

<213> Unknown (H38g320 nucleotide)

<220>

<223> Synthetic construct

<400> 471

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gaataccag	aaatccagg	tccactcttt	ctggttttct	tgttcgtcta	cacagtcact	120
gtagtgggga	acttgggcat	gataataatc	atcagactca	attcaaaact	ccatacaatc	180
atgtgctttt	tccttagtca	cttgccttg	acagacttct	gtttttccac	tgtagttaca	240
cctaaactgt	tggagaactt	ggttgtggaa	tacagaacca	tctctttctc	tgggtgcatc	300
atgcaatttt	gttttgcttg	catttttggg	gtgacagaaa	ctttcatgtt	agcagcgatg	360
gcttatgacc	gttttggtgg	agtttgtaaa	cccttgctgt	ataccactat	tatgtctcag	420
aagctctgtg	ctcttctggg	ggctgggtcc	tatacatggg	ggatagtgtg	ctccctgata	480
ctcacatatt	ttcttcttga	cttatcggtt	tgtgaatcta	ccttcataaa	taattttatc	540
tgtgaccact	ctgtaattgt	ttctgcctcc	tactcagacc	cctatatcag	ccagaggcta	600
tgctttatta	ttgccatatt	caatgagggt	agcagcctaa	ttatcattct	gacatcatat	660
atgcttattt	tcactaccat	tatgaagatg	cgatctgcaa	gtgggcgcca	gaaaactttc	720
tccacctgtg	ctcccccact	gacagccatc	actatcttcc	atggaactat	ccttttctct	780
tactgtgttc	ctaatactaa	aacttctagc	ctcatagtta	cagtggcttc	tgtgttttac	840
acagtggcga	ttccaatgct	gaacccattg	atctacagcc	ttaggaacaa	agatatcaat	900
aacatggttg	aaaaattagt	tgtcaccaaa	ttgatttacc	ac		942

<210> 472

<211> 965

<212> DNA

<213> Unknown (H38g321 nucleotide)

<220>

<223> Synthetic construct

<400> 472

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gatccagaac	tgcagccggg	cctcgctttg	ctgtccctgt	ccctgtccat	gtatctgggc	120
acgggtgctga	ggaacctgct	cagcatcctg	gctgtccgct	ctgactcccc	cctccacaac	180
cccatgtact	tcttcctctc	caacctgtgc	tgggctgaca	tcgggttcac	ctcggccacg	240
gttgccaaga	tgattgtgga	atgcagtcgc	atagcagagt	catctctcat	gcgggctgcc	300
tgacgcagat	gtctttcttg	gtcctttttg	catgtataga	aggcatgtct	ctgactgtga	360
tggcctatga	ctgcttttga	gccatctgtc	gtcctctgca	ctaccagtc	atcgtgaatc	420
ctcacctctg	tgtcttcttc	gttttggtgt	cctttttcct	tagcctgttg	gattcccagc	480
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actataaaat	cgtcccctcc	attctaagga	tttcatcatc	agatgggaag	tataaagcct	720
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tgtacctgac	ttcagctgtg	gcaccacccc	ctaggaattg	agtgggtggc	tcagtgatgt	840
aggctgtggt	caccccatg	ctgaaccttt	tcatactacg	cctgagaaac	agggacatac	900
aaagtgcctt	gcggaggctg	ctcagcagaa	cagtccaatt	tcatagatctg	tttcattctt	960
tttct						965

<210> 473

<211> 990

<212> DNA

<213> Unknown (H38g322 nucleotide)

<220>

<223> Synthetic construct

<400> 473

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ggcctgaaaag	ccaccacagta	ctggatctcc	atcccttttt	gtctcctata	tgttgttgcc	120

gtctctggaa	atagcatgat	cctgtttgtg	gtcctctgtg	aacggagcct	ccataagcct	180
atgtactatt	tcctctctat	gctttcagcc	acagacctga	gcttgteccct	gtgtacactt	240
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gccacagatg	tctttctaca	cggatttact	tccatggagt	ctgggggttct	actggccatg	360
gcctttgata	gttttgtggc	catctgttac	ccactgagat	acactaccat	ccttaccat	420
gcccgaattg	ccaagattgg	gatgagcatg	ttgataagaa	atgttgccgt	catgttgcca	480
gtcatgtctt	ttgtcaagag	gttgtecttc	tgcagttcta	tggtcctttc	acattcttac	540
tgctaccatg	ttgatctcat	ccaactctcc	tgcacagaca	ataggatcaa	cagcatcctt	600
ggtctgtttg	cgcttttgtc	cactacaggg	tttgactgcc	cctgcatcct	gctctcctat	660
atcctgatca	ttcgatctgt	cctcagcatt	gcttcctcag	aagagaggcg	gaaagccttc	720
aacacctgca	catccacat	cagtgtgtgt	tccatcttct	acctccctct	catcagtttg	780
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attcaaaagg	ccattatcaa	ggtcttaatt	cagaagcact	ccaaatctaa	tcacagcta	960
tttctgatta	gagataaagc	catttatgaa				990

&lt;210&gt; 474

&lt;211&gt; 942

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g323 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 474

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gattacccaa	agcttcagat	tcctctcttc	cttgtgttct	tgctcatgta	tggtatcaca	120
gtggtaggaa	accttgggat	gatcataata	atcaagatta	accccaaatt	tcacactcct	180
atgtactttt	tccttagtca	cctctctttt	gttgattttt	gttactcttc	cattgtcact	240
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atgcagtact	tcctgtcctg	cactgctgtg	gtgacagagt	ctttcttgct	ggcagtgatg	360
gcctatgacc	gctttgtggc	catctgcaat	cctctgcttt	atacagtggc	catgtcacag	420
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gttttcattt	ttgtgactgt	actaaaaatc	cgttctgtta	gtgggcgcca	caaagccttc	720
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gatgctttct	ggaagttaat	acatacacaa	gttccatttc	ac		942

&lt;210&gt; 475

&lt;211&gt; 942

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g324 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 475

atggtgctgg	cttcagggaa	cagctcttct	catcctgtgt	ccttcatect	gcttggaatc	60
ccaggcctgg	agagtttcca	gttgtggatt	gcctttccgt	tctgtgccac	gtatgctgtg	120
gctgttgttg	gaaatatcac	tctcctccat	gtaattcagaa	ttgaccacac	cctgcattgag	180
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ctcatccagg	tggtcttcat	ccatgccttt	tcttctgtgg	agtctggggg	gctcatggct	360
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tatgggctct	ttgtggcctt	ctctgtggct	ggctttgata	tgattgtcat	tggtatgtca	660
tacgtgatga	ttttgagagc	tgtgcttcag	ttgccctcag	gtgaagcccg	cctcaaagct	720
tttagcacac	gtgcctocca	tatctgtgtc	atcttggttc	tttatatccc	agcccttttt	780
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aatctctatc	tactgatacc	tcccatgctc	aaccccatca	tttatggagt	tagaaccaaa	900
cagatcgggg	acaggggttat	ccaaggatgt	tgtggaaaca	tc		942

&lt;210&gt; 476

&lt;211&gt; 860

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g325 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 476

tatatattgt	tagacatata	tatatgtcta	aacaacactc	atgtctaatt	gtgtgtagag	60
tcactagagg	caattttaaa	taagttttta	ttttcttttt	tttctattgg	caataacatg	120
attttagtga	taaattttta	taattatgaa	aacataacag	tactttttta	aacataaaca	180
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cttgtagcat	gcggtacaaa	aatgtgaatg	aatctctgca	gaagctgatg	gacttcaaaa	840
tattttagca	ttgaaagcaa					860

&lt;210&gt; 477

&lt;211&gt; 966

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g326 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 477

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cccaagatga	ttgtggacat	gcagtcgcac	agcagagtca	tctcttaagc	gggctgacct	300
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tatatattaga	tagtattctg	ttcagttttc	ttccactttc	agggatcctt	ttgtcttact	660
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cgccctgtgg	aggctgcgca	gcagaacagt	cgaatctcat	gatctgttcc	atccttatcc	960
ttgtgt						966

&lt;210&gt; 478

&lt;211&gt; 951

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g327 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 478

atgcaacccat	ataccaaaaa	ctggacccag	gtaactgaat	ttgtcatgat	gggcttttgc	60
ggcatccatg	aagcacacct	cctcttcttc	atactcttcc	tcaccatgta	cctgttcacc	120
ttgggtggaga	atttggccat	catttttagtg	gtgggttttg	accaccgact	acggagaccc	180
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tgcctatccc	agctcttcat	cttcaccttt	cttggggcaa	ctgagtgttt	cctactgggt	360
gccatggcct	atgategtta	tgtggccatt	tgtatgcctc	tccactatgg	ggctttttgtg	420
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&lt;210&gt; 479

&lt;211&gt; 936

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g328 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 479

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tttctgaatc	cagttgtcta	tacattcagg	aataaggaga	tgaaggcagc	aataaagaga	900
gtatgcaaac	agctagtgat	ttacaagaag	atctca			936

&lt;210&gt; 480

&lt;211&gt; 668

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g329 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 480

gtgaggcacc	cctgcatg	cggaagtaa	gagccagccc	ctctcccacc	cctggctctt	60
aggaacccca	tcatgacctc	gtgtttctgt	ggctttctag	ttttgtcttt	tttttttttt	120

ttctcagtc	tttagacgcc	cagctgcaca	acttgattgc	cttacaaatg	acctgcttcc	180
aggatgcgga	aattcctagt	ttcttctgtg	acccttctca	actcccccat	cttgcattgt	240
gtgacacctt	caccaataac	ataatcatgt	atttgctgc	tgccatattt	ggttttcttc	300
ccatctcggg	gaccttttct	tcttactata	aaattgtttc	ctccattctg	agggtttcat	360
catcacgtgg	gaagtataag	gccttctcca	cctgtgggtc	tcacctgtca	gttggttgc	420
gattttacgg	aacaggcttt	ggagggtacc	tcagttcaga	tgtgtcatct	tccccgagaa	480
aggctgcagt	ggcctcagtg	atgtacacgg	tgatcacctc	catgctgaac	cccttcatct	540
acagcctgag	aaacagggat	attaaagggtg	tcctgcgcca	gccgcacggc	agcaccgtcc	600
aatttcagta	tcttcttctc	tgttccattc	cttttgtagt	gtgggttaaa	aaaggcagca	660
aggtcaaa						668

&lt;210&gt; 481

&lt;211&gt; 840

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g330 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 481

atgtacctgg	tcacgggtgct	gaggaacctg	ctcatcatcc	tggtgtgcag	ctctgactcc	60
cacctccaca	cccccatgtg	cttcttcttc	tccaacctgt	gctgggctga	catcgggtttc	120
acctcggcca	tggttcccaa	gatgattgtg	gacatgcagt	cgcatagcag	agtcattctct	180
tatgcgggct	gcctgacaca	gatgtctttc	tttgtccttt	ttgcatgtat	agaagacatg	240
ctcctgacag	tgatggccta	tgaccgattt	gtggccatct	gtcacccctc	gcactacca	300
gtcatcatga	atcctcacct	tggtgtcttc	ttagttttgg	tgctcttttt	cctcagcctg	360
ttggattccc	agctgcacag	ttggattgtg	ttacaattca	ccttcttcaa	gaatgtggaa	420
atctccaatt	ttgtctgtga	cccattctca	cttctcaacc	ttgcctgttc	tgacagtgtc	480
atcaatagca	tattcatata	tttagatagt	attatgtttg	gttttcttcc	catttcaggg	540
atccttttgg	cttaegctaa	caatgtcccc	tccattctaa	gaatttcctc	atcagatagg	600
aagtctaaag	ccttctccac	ctgtggctct	cacctggcag	ttggttgctt	attttatgga	660
acaggcattg	gcgtgtacct	gacttcagct	gtgtcaccac	ccccaggaa	tggtgtgggtg	720
gcatcagtga	tgtacgctgt	ggtcaccccc	atgctgaacc	ctttcatcta	cagcctgaga	780
aatagggaca	ttcaaagtgc	cctgtggagg	ctgcgcagca	gaacagtcga	atctcatgat	840

&lt;210&gt; 482

&lt;211&gt; 924

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g331 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 482

atggaaacac	agaacctcac	agtgggtgaca	gaattcattc	ttcttgggtc	gacccagtct	60
caagatgctc	aacttctggg	ctttgtgcta	gtcttaattt	tctaccttat	catcctccct	120
ggaaatttcc	tcatcatttt	caccataaag	tcagaccttg	ggctcacagc	ccccctctat	180
ttctttctgg	gcaacttggc	cttactggat	gcattcctact	ccttcattgt	ggttcccagg	240
atgttgggtg	acttctctct	tgagaagaag	gtaatctcct	atagaagctg	catcactcag	300
ctctttttct	tgcattttct	tgagcgggga	gagatgttcc	tcctcgttgt	gatggccttt	360
gaccgctaca	tcgccatctg	ccggccttta	cactattcaa	ccatcatgaa	ccctagagcc	420
tgctatgcat	tatcgttggg	tctgtggctt	gggggcttta	tccattccat	tgtacaagta	480
gcccttatcc	tgcacttgcc	tttctgtggc	ccaaaccagc	tcgataactt	cttctgtgat	540
gttccacagg	tcataaagct	ggcctgcacc	aatacctttg	tggtggagct	tctgatgggtc	600
tccaacagtg	gcctgtctcag	cctcctgtgc	ttcctgggce	ttctggcctc	ctatgcagtc	660
atcctctgtc	gtataaggga	gcactcctct	gaaggaaaga	gcaaggctat	ttccacatgc	720
accaccata	ttatcattat	atttctcatg	tttggacctg	ctatttttcat	ctacacttgc	780
cccttccagg	ctttcccgag	tgacaaggta	gtttctcttt	tccatactgt	catctttctc	840
ttgatgaacc	ctgttatatta	tacgttctgc	aaccaggagg	tgaaagcttc	catgaggaag	900
ttgttaagtc	aacatatgtt	ttgc				924

<210> 483  
 <211> 457  
 <212> DNA  
 <213> Unknown (H38g332 nucleotide)

<220>  
 <223> Synthetic construct

<400> 483  
 gggatgagaa aggaacaagc tgtctgtggt agtcatccat gattgagatg atgtgtggac 60  
 cctgagtcag actacctggt tcaaatgcag gctctctact ttttaccat ttgatcttgg 120  
 cctgtggctc tctacttctt atccatttca tcttggactt gtggcctctc atacctcatc 180  
 ttctttacag tcttccatat gaaatcccc taaagtagga acaaagcttt ggccaactgc 240  
 tcttcccatc tttcctggtt ctttacttag gaactgtgtg tttaatatac gtgacacagg 300  
 gttttctcca catccctgag cagaaacaag ctgtgtctgt attttgcact gtactcacc 360  
 ccatgctaaa cccctctcatc tacatcctga gaaacaagga tgtggtgggg ctcttcagaa 420  
 agttctggga acacatcaag tctctaaaca gaacaca 457

<210> 484  
 <211> 972  
 <212> DNA  
 <213> Unknown (H38g333 nucleotide)

<220>  
 <223> Synthetic construct

<400> 484  
 atgtctttct tctttgtaga cttaagaccc atgaacaggt cagcaacaca catcgtgaca 60  
 gagttttattc tcttgggatt ccttgggttg tggagattc agatttttctt cttctcattg 120  
 tttttggtga tttatgtctt gaccttgctg ggaaatggag ccatcatcta tgcagtgaga 180  
 tgcaaccac tactacacac ccccatgtac tttctgctgg gaaattttgc ctctcttgag 240  
 atctggtatg tgtctccac tattcctaac atgctagtca acattctctc caagaccaag 300  
 gccatctcat tttctgggtg cttctccag ttctatttct tcttttctact gggaacaact 360  
 gaatgtctct tttctggcagt aatggcttat gatcgatacc tggccatctg ccaccactg 420  
 cagtaccctg ccatcatgac tgaagggtt tgtggtaagc tgggtgtctt ctgttggctt 480  
 attggattcc ttggataccc aattcccat ttctacatct cccaactccc cttctgtggt 540  
 cctaatatca ttgatcactt cctgtgtgac atggacccat tgatggctct atcctgtgcc 600  
 ccagctccca taactgaatg tattttctat actcagagct ccttgtctct ctttttctact 660  
 agtctgtaca ttctcgac ctatatac ctactcctg ttactaacag ctgtttttca ggtcccttct 720  
 gcagctggtc ggagaaaagc cttctctacc tgtggttctc atttgggtgt ggtatctctt 780  
 ttctatggga cagtcatggt aatgtatgta agtcctacat atgggatccc aactttattg 840  
 cagaagatcc tcacactggt atattcagta acgactctc tttttaatcc tctgatctat 900  
 actcttcgta ataaggacat gaaactcgt ctgagaaatg tctgttttg aatgagaatt 960  
 cgtcaaaatt cg 972

<210> 485  
 <211> 945  
 <212> DNA  
 <213> Unknown (H38g334 nucleotide)

<220>  
 <223> Synthetic construct

<400> 485  
 atggccaaca tcaccaggat ggccaaccac actggaaaagt tggatttcat cctcatggga 60  
 ctcttcagac gatccaaaca tccagctcta cttagtgtgg tcatctttgt ggttttctctg 120  
 aaggcggtgt ctggaaatgc tgtcctgac cttctgatac actgtgacgc ccacctccac 180  
 agccccatgt actttttcat cagtcaattg tctctcatgg acatggcgta cattctgtc 240  
 actgtgccca agatgtcctt ggaccagggt atgggtgtga ataagggtct agccctgag 300  
 tgtgggatgc agatgttctt ctatctgaca ctacgaggtt cggaattttt ccttctagcc 360  
 accatggcct atgaccgcta cgtggccatc tgccatcctc tccgttacc tgtcctcatg 420

aaccataggg	tctgtctttt	cctggcatcg	ggctgctggt	tcctgggctc	agtggatggc	480
ttcatgctca	ctcccatcac	catgagcttc	cccttctgca	gatcctggga	gattcatcat	540
ttcttctgtg	aagtcctgtc	tgtaacgata	ctgtcctgct	cagacacctc	actctatgag	600
accctcatgt	acctatgctg	tgtcctcatg	ctcctcatcc	ctgtgacgat	catttcaagc	660
tcctattttac	tcatcctcct	caccgtccac	aggatgaact	cagcagaggg	ccggaaaaag	720
gcctttgcc	cctgtcctc	ccacctgact	gtggctcatcc	tcttctatgg	ggctgccgtc	780
tacacctaca	tgtccccag	ctcctaccac	accctgaga	aggacatgat	ggatatctgtc	840
ttctatacca	tcctcactcc	ggtgctgaac	cctttaatct	atagtcttag	gaataaggat	900
gtcatggggg	ctctgaagaa	aatgttaact	gtgagattcg	tcctt		945

&lt;210&gt; 486

&lt;211&gt; 759

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g335 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 486

agccacctct	ccgtcattga	cacattatac	atctccacca	ttgtgcccaa	gatgctggta	60
gattatctca	tgggagaggg	gaccatctct	ttcctgcct	gcactgctca	gtgctttctc	120
tacatggggt	ttatgggggc	tgaattcttc	ctgctggggc	tcattggccta	tgaccgctac	180
gtggccatct	gcaaccact	gcgtatcct	gtcctcatca	gctggcgggt	ctgctggatg	240
atcctggcca	gctcttggtt	cgggtggggt	ttggacagtt	ttctcctcac	ccccattacc	300
atgagtctcc	cgttctgtgc	ctctcaccaa	atcaatcact	ttttctgtga	ggcaccacc	360
atgctgaggg	tggcctgtgg	ggacaaaacc	acctatgaaa	cagtgatgta	tgtgtgctgc	420
gttgcaatgc	tgtgatccc	cttctcgggt	gtgactgcat	cctacaccag	gattctcatc	480
acagtgcac	agatgacatc	ggctgaagg	aggaagaagg	cctttgccac	ctgctcttca	540
cacatgatgg	tgggtgacatt	gttctatggg	gctgccttgt	atacgtatac	gcttccccc	600
tttaccaca	ccccaatcaa	agataagggt	ttctctgcct	tttataccat	cctcacaccc	660
ttattaaacc	ctctcatcta	cagtctgagg	aacagggtatg	tgatgggtgc	cttgaagaga	720
gttgtggcaa	gatgttaggg	gacatgtggt	gtgatgagg			759

&lt;210&gt; 487

&lt;211&gt; 857

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g336 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 487

gttttctccc	gcaccgggt	tgcctcaat	tgcaaacgca	tattctgggt	aacgccagtc	60
ttttttttgt	ccccctcatg	cccatctcct	atcgagtggt	ctaagagtgc	agtcagcttc	120
gtgtcacaga	gcaggcgc	tagatttttg	ggctgtgaca	ttcaaacggg	atgtgttcct	180
gggcccctgg	gggaactgaa	gcccttctct	ttggttttat	gtcttatgat	cgctatgtag	240
ctatctgtca	ccctttacat	tatctatgct	ttatgagcaa	gaagatctgc	tgcctcatgg	300
ttgcatgtgc	atgggcccag	ggttctatca	atgctttcat	acatacattg	tatgtgtttc	360
agcttccatt	ctgtaggtct	cggtcatta	accacttttt	ctgtgaagtt	ccagctctac	420
tatcattggt	gtgtcaggac	acctcccagt	atgagtatac	agtcctcctg	agtggactta	480
ttatcttgct	actaccattc	ctagccattc	tggcttcccta	tgctcgtgtg	cttattgtgg	540
tattccagat	gagctcagga	aaaggacagg	caaaagctgt	ttccacttgt	tcctcccacc	600
tgattgtggc	aagcctgttc	tatgcaacca	ctctctttac	ctacacaagg	ccacactcct	660
tgcgttcccc	ttcacgggat	aaggcggtgg	cagtatttta	caccattgtc	acacctctac	720
tgaacccatt	tatctacagc	ctgagaaata	aggaagtgtg	gggggcagtg	aggagactgt	780
tgggatattg	gatatgctgt	agaaaatatg	acttcagatc	tctgtattga	ttgagcatta	840
acaacataaa	aagctgt					857

&lt;210&gt; 488

&lt;211&gt; 812

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g337 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 488

agaagggaca	ttttctattt	tgccttcatt	tgtagctatt	catgactgac	tctccgttct	60
tttgtctact	tgttcatccg	tccatccatc	catccatcca	tccactcagc	cattcttttg	120
ttcaacagtg	atttactgaa	ttccttacta	tgactcttct	atatttgaca	tgccacacga	180
tgttcagcaa	tgacttctac	tcaagagcta	gttttttagt	tcacactgct	tttctcttgt	240
tctttatctt	ttgcttttgt	agctcagaac	agaaaaatct	atagaaaaga	tcttgetacc	300
aggctatggg	accctcttgt	ccatggcgat	atcttactgt	ctttgtgtct	ttgggctgag	360
caatcctgca	gcatgggtga	tgctcaataa	tgctcatgga	acaaaatggg	gtgggttcctc	420
ttccaggaag	tgtgcccac	tctcttttga	ttgagaatag	gtttacctag	gtgattacat	480
cactaacatt	gtattcctgt	gatttcttcc	tcatgatagg	acagatttta	ctaaaaagtc	540
aaaaattatt	tattacatta	tgccgttcct	cttacttttc	atgccagatt	aaattttctt	600
ggctcttcaa	tgcccacttc	taatatcaat	aaacaagtaa	cctttcccca	acctactgaa	660
gtcgccatgt	ggaattggtc	attctttctg	ttgattccat	atcatccctt	tcattcttct	720
gtctgcccgt	ttgtccatcc	atztatccat	ccacttagct	attcggtcgt	tcaacaatga	780
tttagtgaat	acctacttac	tgtgacccta	tt			812

&lt;210&gt; 489

&lt;211&gt; 931

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g338 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 489

atgtcattag	ctgaaggaaa	tcagagttct	ggagccgcat	ttaccctctt	gggctttctca	60
gaatatgcag	acctccaggt	tcctctgttc	ctggctcttc	tgaccatcta	cacaatcact	120
gtattgggaa	acctgggcat	gatcatgac	atcaggatca	accccaaact	ccacaccgcg	180
atgtactttt	tcctcagcca	cttgtccttt	gttgatttct	gttattccac	cacagttaca	240
cccaaactgc	tgaggaaact	ggttggtgaa	gacagaacca	tctccttcac	aggatgcac	300
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ctcacctatt	tcctcttgtc	attatccttc	tgtgggtcta	acatcatcaa	taattttgtc	540
tgtgagcact	ctgtcatcat	ctctgtctcc	tgctctgacc	cctacatcag	ccaaatgctt	600
tgttttgtca	ttgcaatatt	caatgaggtg	agcagcttgg	gagtcacctt	cactacctat	660
attttcatct	ttattgctgt	cataaaaatg	ccttctgctg	ttgggcacca	aaaagctttc	720
tctacctgtg	cttcccacct	gactgccatc	actattttcc	acgggactgt	cctgttcctt	780
tattgtgtac	ccaactccaa	aaactcatgg	ctcatagtca	aagtaggttc	tgtgttttat	840
acagtcacat	tccccacgtt	gaacccttta	acctacagcc	tcagggaaca	agacgtgaaa	900
gagagtgttc	gaaagttaat	gaatcactca	a			931

&lt;210&gt; 490

&lt;211&gt; 651

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g339 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 490

ttcttggtcc	tttttgcatt	tatagaagac	atgttccctga	ctgtgatggc	ctatgactgc	60
tttatagcca	tctgtcatcc	tctgcactac	ccagtcacgt	tgaatccctca	cctctgtgtc	120
ttcttcattt	tggtgtcctt	tttcccttagc	ctgttggtatt	cccagctgca	tagctggatt	180
gtgttacaat	tcaccatcat	caagaatgtg	gaagtctcta	attttgtctg	tgacctctct	240
caactttcca	aacttgccctg	ttctgacagc	gtcatcaata	gcatattcat	atatttcgat	300

aatactatgt	ttgggttttct	tcccattttca	gggatccctt	ggctttacta	taaaatcgtc	360
ccctacattc	tcaggatttc	atcgtcagat	gggaagtata	aagccttcgc	cacctgtggc	420
tctcacctgg	cagttgcttg	ctgattttat	ggaacaggca	ttggcatgta	cctgacttca	480
gctgtgtcac	cacccccag	gaatggtgtg	gtggcatcag	tgatgtacgc	tgtggtcacc	540
cccattgctga	acctttttat	ctacagcctg	agaaacaggg	acatacaaag	tgccctgcgg	600
aggctgcgcc	ccagaacagt	cgaatctcat	gatctgttcc	atcctttttc	t	651

&lt;210&gt; 491

&lt;211&gt; 933

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g340 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 491

atgggcaagg	aaaactgcac	cactgtgget	gagttcattc	tccttggact	atcagatgtc	60
cctgagttga	gagtcctgcct	cttctgtctg	ttccttctca	tctatggagt	cacgtttgta	120
gccaatctgg	gcatgactgc	actgattcag	gtcagctctc	ggctccacac	ccccgtgtac	180
tttttcctca	gccacttgct	ctttgtagat	ttctgtact	cctcaataat	tgtgccaaag	240
atgttggtca	atatctttaa	caaggacaaa	gccatctcct	tcctaggggtg	catgggtgcaa	300
ttctacttgt	tttgacatcg	tggagtcact	gaggtcttcc	tgctggccgt	gatggcctat	360
gaccgctttg	tggccatctg	taacccctcg	ctgtacatgg	tgaccatgtc	tcagaagctg	420
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attctcacca	ctatcctgaa	gatacactct	gcagagagca	ggcacaaaagc	tttctccacc	720
tgtgcctccc	acctcacagc	catcactgtc	tcccatggaa	caatccttta	cattttattgc	780
aggccgagtt	caggcaacag	tggagatggt	gacaaagtgg	ccaccgtgtt	ctacacagtt	840
gtgattccca	tgctgaacct	cctgatctac	agcctgagaa	ataaggatgt	gaacaaagct	900
ctcagaaaag	tgatgggctc	caaaattcac	tcc			933

&lt;210&gt; 492

&lt;211&gt; 963

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g341 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 492

atgtttctga	cagagagaaa	tacgacatct	gaggccacat	tcactctctt	gggtcttctca	60
gattacctgg	aactgcaaat	tcccctcttc	tttgtatttc	tggcagtcta	cggcttcagt	120
gtggtaggga	atcttgggat	gatagtgatc	atcaaaaatta	acccaaaatt	gcataccccc	180
atgtattttt	tcctcaacca	cctctccttt	gtggatttct	gctattcctc	catcattgct	240
cccatgatgc	tgggtgaacct	ggtttagaaa	gatagaacca	tttcattctc	aggatgtttg	300
gtgcaattct	ttttcttttg	cacctttgta	gtgactgaat	taattctatt	tgcgggtgatg	360
gcctatgacc	actttgtggc	catttgcaat	cctctgctct	acacagttgc	catctcccag	420
aaactctgtg	ccatgctggt	ggttgatttg	tatgcatggg	gagtcgcattg	ttccctgaca	480
ctgcgctgct	ctgctttaaa	gttatctttt	catggtttca	acacaatcaa	tcatttcttc	540
tgtgagttat	cctccctgat	atcactctct	taccctgaat	cttatctcag	ccagttgctt	600
cttttctactg	ttgccacttt	taatgagata	agcacactac	tcattcattct	gacatcttat	660
gcattcatca	ttgtcaccac	cttgaagatg	ccttcagcca	gtgggcaccg	caaagtcttc	720
tccacctgtg	cctcccacct	gactgccatc	accatcttcc	atggcaccat	cctcttccctc	780
tactgtgtac	ccaactccaa	aaactccagg	cacacagtca	aagtggcctc	tgtgttttac	840
accgtggtga	tccccttggt	gaatcccttg	atctacagtc	tgagaaataa	agatgttaag	900
gatgcaatcc	gaaaaataat	caatacaaaa	tattttcata	ttaaacatag	gcattgggat	960
cca						963

&lt;210&gt; 493

<211> 303  
 <212> DNA  
 <213> Unknown (H38g342 nucleotide)

<220>  
 <223> Synthetic construct

<400> 493  
 tgttgccccac tccaccacca ttacctgcct agacagtcac tggatcagct cacataactta 60  
 attgcttttga ttttcaattt tctctttggt tttggcctcc agagttcctt tattttctta 120  
 aaggcatgac agtgctttcc aaaggatata cactatattt tctgtaaggc gagaagggct 180  
 tcagggtatc taacctacca tattgctgga aatagaagtt aaaccgtttt tttcctagtc 240  
 tgtaactgcc actattatgg tgatgatata ggctaagttc gaatatttta tgtgaacata 300  
 tta 303

<210> 494  
 <211> 957  
 <212> DNA  
 <213> Unknown (H38g343 nucleotide)

<220>  
 <223> Synthetic construct

<400> 494  
 atgcctgtgg ggaaacttgt cttcaaccag tctgagccca ctgagtttgt gttccgtgcg 60  
 ttcaccacag ccactgaatt ccagggttctt ctcttccttc tcttcctcct cctctacttg 120  
 atgacccctt gtggcaacac agccatcctc tgggtggtgt gcacacacag caccctccgc 180  
 accccgatgt atttcttctt gtccaacctg tctttcctgg aactctgcta caccaccgtg 240  
 gtagtacctt tgatgctttc caacattttg gggggccaga agcccatttc gttggctgga 300  
 tgtggggccc aaatgttctt ctttgtcacc ctccggcagca cggactgttt cctcttggcg 360  
 atcatggcct atgaccgcta tgggtctatc tgccaccgc tgactacac cctcatcatg 420  
 acccgcgagc tgtgcacgca gatgctgggt gggggccctg gcctggccct ctccctcc 480  
 ctgcagctca ccgccttaat cttcaccctg cctttttgcg gccaccacca ggaaatcaac 540  
 cacttcctct gcgatgtgcc tcccgctctg cgctggcct gcgctgacat ccgctgtcac 600  
 caggctgtcc tctatgtcgt gagcatcctc gtgctgacca tccccttctt gctcatctgc 660  
 gtctcctacg tgttcatac cttgtgccat ctgagcatcc gttctgcca gggccgccc 720  
 cgggcctctt ccacctgctc cttccacctc accgtggctc tgctgcagta tggctgctgc 780  
 agcctcgtgt acctgcgtcc tccgtccagc acctcagagg atgaggacag ccaaatacgcg 840  
 ttggtctaca cctttgtcac ccccttactc aacccttgc tttacagcct taggaacaag 900  
 gatgtcaaaag gtgctctgag gagggtccatt atccgtaaaag cagcctctga cgccaac 957

<210> 495  
 <211> 624  
 <212> DNA  
 <213> Unknown (H38g344 nucleotide)

<220>  
 <223> Synthetic construct

<400> 495  
 atggagctgg agaatggcac tgtgaagact gggttctttc tcttgggatt cagcgacat 60  
 ctggaacttc agagtctcct ttttgacagaa tttttttcca tctactctgt tactctgatg 120  
 gggaaccttg gaatgatttt attaatcaca atcagttccc acttgacacac tctatgtatg 180  
 tttttcctct gtgtgtttgc cttcatagat gcatgctact cttctgtcat tgctcccaaa 240  
 ttacttgtga acttgggttc tgaaaagaag accatttctt acaatggctg tgttgacacag 300  
 ttatatttct tctgctcttt agttgacaca gaatctttcc tcttggctgc catggcttaa 360  
 gaccggtaca tagcaatctg taaccgctg ctctatacag tgattatgtc caagaaggtt 420  
 tgttgccagc ttgcaattgg agcatttttg gggggcacta tgagctcaat tattcatacc 480  
 acgaacactt tccatctgtc attctgtctc agagatatta accatttctt ttgtgatata 540  
 tcccactct tctctctgtc ctgactgac acatacatgc atgacatcat tctggtggtc 600  
 tttgccagtt ttgtggaagc aatc 624

<210> 496  
 <211> 963  
 <212> DNA  
 <213> Unknown (H38g345 nucleotide)

<220>  
 <223> Synthetic construct

<400> 496

cacacagagc	cacggaatct	cacaggtgtc	tcagaattcc	tcctcctggg	actctcagag	60
gatccagaac	tgcagcctgt	cctccctggg	ctgtccctgt	ccatgtatct	gctcacgggtg	120
ctgaggaacc	tgctcatcat	cctggctgtc	agctctgact	cccacctcca	cacccccatg	180
tactttcttc	tctccaaccc	gtcatgggct	gacatcgctt	tcacctcggc	cacagttccc	240
aagatgattg	tggacatgca	gtcgcatagc	agtcattctt	tatgcaagct	gcctgacaca	300
gatgtctttc	tttgcccttt	ttgcatgcat	agaagatcat	gctcctgatt	gtgatggcct	360
atgaccgatt	tgtagccgtc	tgctactccc	cacactaccc	agtcatcatg	aatcctcgcc	420
tcgggtgtctt	cttcgttttg	gtgtcctttt	tccttagcct	gttggtattcc	cagctgcaca	480
gttggtactgt	gttacaattc	accttcttca	agaatgtgga	aatctctaata	tttgtctgtg	540
acccatctca	acttctcaac	cttgccctgtt	ctgacagcgt	catcgatagc	atattcatat	600
atcttagatag	tactatgttt	cgttttcttc	cgatttcagg	gacccctttg	tcttactcta	660
acattgtccc	ctccatttca	agaatttcat	catcagatgg	gaagtctaaa	gccttctcca	720
cctgtcgtctc	tcacctggca	gttggttgct	tattttatgg	aacaggcatt	ggcgtgtacc	780
tgacttcagc	tgtggcacca	ccccaggag	tgggtgtggtg	gtgtcagtga	tgtacactgt	840
ggtcaccccc	atgctgaacc	ctttcatcta	ctgcctgaga	aacagggaca	ttcaaagcgc	900
cctgtggagg	ctgcgcagca	gaacagtcga	atctcatgat	ctgttccatc	ctttttcttg	960
tgt						963

<210> 497  
 <211> 932  
 <212> DNA  
 <213> Unknown (H38g346 nucleotide)

<220>  
 <223> Synthetic construct

<400> 497

gaaaagaatc	tcattctctat	gaatgggttt	atgaacttca	ctgattaccc	agagttggaa	60
atgcccttgt	tcttagtggt	tctcagttgc	ttcctggcca	ttattttgag	aaatatggaa	120
tgggtcattc	tgaccaagt	gaatgtgcat	ctcttcaccc	tatatacttc	ttcctaacaa	180
atgtcaccc	ttgggatacc	tcagtcatca	tgccctcagat	cctggccatt	ctggccacag	240
gcaagacaac	catttctctat	ggccgcta	aaaagcaatg	aggtcctttt	tcttcatattg	300
tgtaggaact	tagtgtttcc	tgccaacagc	aatgaccata	agcagccac	tgccccacac	360
tacaagccat	gaacttcaag	acatgttggg	gttttttttt	ggtggggatt	tgttgttgta	420
catgctgggt	tttgatgggtg	aacgtggtga	atgcctacac	ctgaggacta	tcaggagcca	480
ctttcaacac	catctgcaca	tttgcccgct	tcttctgtga	tgacaattag	atcaaattct	540
gtcacatcct	gcccctgctg	aagctcattt	gaaatacttc	aggaaacagc	aagataatta	600
ttgtgatctt	tgacagcttt	tatgattata	gctggcacta	gggtcatcct	gatctcttac	660
ctgctaatac	tcagggtctt	gaggatgaaa	tcacgcagtg	gcaaagccaa	taattttatc	720
catccacttg	tgccctccac	ctaactgcta	tgaccttctt	ttgggatccc	catcttcaga	780
catgtgaagt	acctcagata	aatcactgac	agaagacaag	ttggcatcat	gacttgcacc	840
atctttatct	ctatgctaga	acttttgatc	caaagtctaa	agaaggatat	acaagttgcc	900
ttcaaaaagg	ccataggtaa	cttctgggtt	tt			932

<210> 498  
 <211> 1005  
 <212> DNA  
 <213> Unknown (H38g347 nucleotide)

<220>  
 <223> Synthetic construct

&lt;400&gt; 498

tctacagacc	cacagaatct	aacagatgtc	tctatatattcc	tcctccgaga	acctcagagg	60
atccagaatg	gcagctggtc	cttgctgggt	tgttcctgtc	catgtgcctg	gtaacgggtg	120
tggggaacct	gctcatcatc	ctggccgtca	gccttgactc	ccacctccac	acccccatgt	180
actttcttct	ctccaacctg	tccttgccctg	acatcggttt	cacctccacc	acggtagcca	240
agatgattgt	ggacatccaa	tctcacagca	gagtcattctc	ctatgcaggc	tgcttgactc	300
agatgtctcc	ctttgccatt	tttggagtca	tggaagagag	acacgctcct	gagtgtgatg	360
gcctctgacc	gctttgtagc	catctgtcac	cctctatatc	attcagccat	catgaacccg	420
tgtttctgtg	gctttctagt	tttgttgtct	tttttttttt	tttctgtctt	tttagtgccc	480
agctgcacaa	cttgattgcc	ttacaaatga	cctgcttcaa	ggatgtggaa	attcctaatt	540
tcttctgtga	cccttctcaa	ctccccatc	ttgcatgttg	tgacaccttc	accaataaca	600
taatcatgta	tttccttget	gccatatttg	gttttcttcc	catctcgggt	tcctttttct	660
cttactataa	aattgtttcc	tccattctga	gggtttcatc	atcaggtggg	aagtattagg	720
ccttctcctc	ctgttggtct	cacctgtcag	ttgtttgctg	attttatgga	acaggcggtg	780
gaggtacctc	agttgagatg	tgcatcttcc	cccaggaag	gttgcatggg	cctcagtgat	840
gtacatggtg	gtcaccctta	tgctgaaccc	ctttgtctac	agcctgagaa	acagggatat	900
taaaagtgtc	ctgcgggtgc	cgcacggcag	cacggtctaa	tctcaatatc	ttcttatctg	960
ttccattcct	tttgtagtgt	aggttaaaaa	ggcagcaagg	tcaaa		1005

&lt;210&gt; 499

&lt;211&gt; 975

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g348 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 499

atgaagactt	ttagtccctt	tcttcagatc	ggcagaaata	tgcatcaagg	aaaccaaacc	60
accatcactg	aattcattct	cctgggattt	ttcaagcagg	atgagcatca	aaacctctc	120
tttgtgcttt	tcttggttat	gtacctggtc	actgtgattg	ggaacgggct	catcattgtg	180
gctatcagct	tggtatacgt	ccttcatacc	cccatgtatc	tcttccttgc	caatctatcc	240
tttgctgata	tttccctccat	ttccaactca	gtccccaaaa	tgctgggtgaa	tattcaaacc	300
aagagtcaat	ccatctctta	tgagagctgc	atcacacaga	tgtacttttc	tattgtgttt	360
gtcgtcattg	acaatttgct	cttggggacc	atggcctatg	accactttgt	ggcgatctgc	420
cacctcttga	attatacaat	tctcatgcgg	cccagggttcg	gcatttttgc	cacagtcac	480
tcattggttc	tcagtaatat	tattgctctg	acacacaccc	ttctgctcat	ccaattgtc	540
ttctgtaacc	acaacactct	cccacacttc	ttctgtgact	tgccccctct	gtcacaactg	600
tcctgttcag	atacattgat	caatgagctt	gtgttggtta	ttgtgggttt	atcagttatc	660
atcttccctt	ttacactcag	cttcttttcc	tatgtctgca	tcacagagc	tgctctgaga	720
gtatcttcca	cacagggaaa	gtggaaagcc	ttctccactt	gtggctctca	cctgacagtt	780
gtattactgt	tctacggaac	cattgtaggc	gtgtactttt	tccccctctc	cactcaccct	840
gaggacactg	ataagattgg	tgctgtccta	ttcactgtgg	tgacacccat	gataaacccc	900
ttcatctaca	gcttgaggaa	taaggatatg	aaaggtgcc	tgagaaagct	catcaataga	960
aaaatttctt	ccctt					975

&lt;210&gt; 500

&lt;211&gt; 768

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g349 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 500

atgtactttt	tcctcagtc	tctatccttt	ttggatactt	gttattccaa	tgtatttaca	60
cccaaactgt	tagagatttt	ggttgtggaa	gacagaacta	tctccttcaa	aggatgcatg	120
gtacaatttt	tctttgggtg	tgcatattgt	atcacagaaa	tgttcatgtt	agcggtagtg	180
gcttatgact	tgtttatggc	tgtttgtaac	ccctgtctct	acacagtggc	tatgtctcct	240
aagctctgtg	ctctcctggg	agctggaact	tacacatggg	gtggactctg	ttccctgaca	300

ctcacttatt	ctcttttggg	gttatccctac	tgtggatcta	acatcataaa	tcacttttggc	360
tgtgagtact	ctgccattct	ttctctatcc	tgtcttgatc	cctacttcaa	ccagatggcg	420
tgttttagtca	tttctatatt	cagtgaagct	tgtagcctcc	tggccatcct	tgccttctat	480
gtcttcatag	ttgccactgt	catcaagatg	ctttctacgg	gtggacccca	aaaggccatc	540
tccacctgtg	cctcccacct	gaccaccgtc	tccattttcc	atgggggtcat	cctgtctcctt	600
tactgtgtgc	ccaactccaa	aagctcatgg	ctcctgggtca	aagtggctac	tgtacttttt	660
acagtcataa	tccctatgct	gaatccccctg	atctacagcc	ttaggaacaa	agatgtaaaa	720
gggaccgtca	ggaagttgat	aaactcccaa	tcaccttttc	actcaaaa		768

&lt;210&gt; 501

&lt;211&gt; 951

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g350 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 501

atggcagaga	gtggcaccac	ggtgacagaa	ttttttctga	gggggttccg	gttgaaggca	60
gagctgcaga	taggtctctt	ctttgtgttt	ctgggtcattt	ttctcatcac	catggggggc	120
aacctgggca	tgattgtgct	aatttaattc	agactgaccc	tgggtccag	actcccatgt	180
acttcttctt	cagtcattct	tccttcctgg	acatttgcta	ctcttctgtt	attggtectc	240
agttgcttga	gactttggga	ctgataagat	gatcatcacc	tatgagcgct	gtgccagcca	300
attcttcttt	ttcacactct	gtgctagcat	tgagtgtttc	cttttggctg	tgatggctta	360
tgaccggtac	gtggctgtgt	gtaacccccct	cctctatgcc	atagtcatga	caccaaaagac	420
ccgcctggcg	ctgctggccg	gggcataatc	tgggtgccata	gtcaattctg	tgatctgcac	480
tggctgcacc	ttctctatct	ccttctctaa	gtccaaccat	gtagacttct	tttctgtga	540
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cctctcagct	tttctgggtca	tcacaaccag	catttcagtg	attcttacat	cgtacttggt	660
catcattcag	tctgttctga	agattcgtac	agcagggtga	aagccaagac	cttctccacc	720
tgtgcttctc	acatgactgc	attgactctc	ttctttggaa	cactcatatt	catataacctg	780
aaaggcaaca	tgggcgaatc	ccttgaggaa	gacaagatcg	tgtcaatatt	ttacactgtg	840
gtcatcccca	tgctaaatcc	aatgatctac	agcctgagaa	acaaagacat	gaaagaggct	900
ctgaagaaa	gtttcaacag	gataaggggt	tccaagcag	agtaactctt	g	951

&lt;210&gt; 502

&lt;211&gt; 939

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g351 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 502

atgctgctga	cagatagaaa	tacaagtggg	accacgttca	ccctcttggg	cttctcagat	60
taccagaac	tgcaagtccc	actcttctctg	gtttttctgg	ccatctacaa	tgctactgtg	120
ctaggggaata	ttgggttgat	tgtgatcatc	aaaatcaacc	ccaaactgca	tacccccatg	180
tactttttcc	tcagccaact	ctcctttgtg	gatttctgct	attcctccat	cattgctccc	240
aagatgttgg	tgaaccttgt	tgtcaaagac	agaaccattt	catttttagg	atgcgtagta	300
caattctttt	tcttctgtac	ctttgtggtc	actgaatcct	ttttattagc	tgtgatggcc	360
tatgaccgct	tcgtggccat	ttgcaaccct	ctgctctaca	cagttgacat	gtcccagaaa	420
ctctgcgtgc	tgtgtggtgt	gggatacctat	gcctggggag	tctcatgttc	cttggaactg	480
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gagttctcct	cactactctc	cctttcttgc	tctgatactt	acatcaacca	gtggctgcta	600
ttctttcttg	ccaccttta	tgaatcagc	acactactca	tcgttctcac	atcttatgcg	660
ttcattgttg	taaccatcct	caagatgcgt	tcagtcagtg	ggcgccgcaa	agccttctcc	720
acctgtgcct	cccacctgac	tgccatcacc	atcttccatg	gcaccatcct	cttcttttac	780
tgtgtgcccc	actccaaaa	ctccaggcac	acagtcaaag	tggcctctgt	gttttacacc	840
gtgggtgatcc	ccatgttgaa	tcccctgac	tacagttctga	gaaataaaga	tgtcaaggat	900
acagtcaccg	agatactgga	caccaaagtc	ttctcttac			939

<210> 503  
 <211> 932  
 <212> DNA  
 <213> Unknown (H38g352 nucleotide)

<220>  
 <223> Synthetic construct

<400> 503  
 atggctgaaa ggaattacac cgtagtgaag gagttcttcc ttactgcatt tactgaacat 60  
 ctccagtggg ggggttcctct ctctctcata tttttgagtt tctatcttgc cactatgtta 120  
 gggaacacag gcatgacctt cctgatccgt ggcatcgctc ggctccacac cccgatgtac 180  
 ttcttctctc gccacctttc cttgggtggac atctgtctact cgtccgccat catccctcag 240  
 atgctggctg tgctgtggga gcacggcaca accatctccc aggctcgctg tgcagctcag 300  
 ttcttctctc tcaccttctt tgcttccatc gactgtctacc ttctggccat catgcctatg 360  
 accgctacac ggccgtgtgc agcccttctt ttatgtcacc atcataaccg agaaggaccg 420  
 ctgggcctag tcactggggc ttacgttgct gggtttttca gtgcctttgt tcgacgggtca 480  
 cagccttcac tctctctttt tgtggaaaca atgagatcaa cttcattttc tgtgacctcc 540  
 ctctcttatt aaaactctcc tgtggggaca gctacactca ggaagtgggtg attattgtgt 600  
 ttgtcttttt cgtcatgcct gcctgtatct tgggtgatctt ggtatcctac ctgttttatca 660  
 ttgtggccat cctgcagatc cactctgctg gaggccgggc caagaccttc tccacctgcg 720  
 cctccacact cactgccgct gctcttttct ttggcaccct catcttcatg tacctgcgag 780  
 acaacacagg ccagtcctcc gagggagacc gagtgggtgc tgtgctctac acggtgggtga 840  
 ccccaatgct gaatccctt atctatagcc tgagaaacaa ggaggtaaaa gaggccacta 900  
 ggaaagccct gagcaaatca aagcctgcta ga 932

<210> 504  
 <211> 762  
 <212> DNA  
 <213> Unknown (H38g353 nucleotide)

<220>  
 <223> Synthetic construct

<400> 504  
 atgtactatt tcctctccat gctgtccgcc actgacctcg gcctgtccat atccactctg 60  
 gtcaccatgc tgagtatatt ctgggtcaat gtgagggaaa tcagctttaa tgctgtctg 120  
 tcccacatgt tctttattaa attcttctc gtcactggaat cctcagtgtc gttggccatg 180  
 gcttttgatc gttttgtggc cgtctctaata ccccttaggt atgccatgat ttaactgac 240  
 tccagaatag ctcaaattgg agtggcaagt gtcacagagg ggctcctaata gctgacacca 300  
 atggttagcac ttcttataag actttcctac tgccacagcc aagtactcca ccactcctac 360  
 tgctaccacc ctgatgtgat gaagctctca tgacacagaca ccagaatcaa cagtgcagtt 420  
 gggctgactg ccatgttctc tactgttggg gtagacttac ttctcactct cctttcttat 480  
 gttttgatca ttaggactgt ccttagcggt gcttccccag aagagaggaa ggaaaccttc 540  
 agtacatgtg tctccacat tgtggctttt gctatatatt acattccatt gatcagctg 600  
 tccattgttc acagatttgg gaaacaagcc ccagcctatg tacatactat gattgctaac 660  
 acctacctgc tgatctcccc tttgatgaac cctgtcatct acagtgtgaa aaccaaacag 720  
 atacgtagag ctgtgataaa aattctccat tccaaagaaa ca 762

<210> 505  
 <211> 565  
 <212> DNA  
 <213> Unknown (H38g354 nucleotide)

<220>  
 <223> Synthetic construct

<400> 505  
 atggactggg aaaattgctc ctcatctaact gatttttttc tcttgggaat taccaataac 60  
 ccagagatga aagtgacctt atttgctgta ttcttggctg tttatatcat taattttctca 120  
 gcaaactctg gaatgatagt tttaatcaga atggattacc aacttcacac accaatgtat 180

ttcttctca	gtcatctgtc	tttctgtgat	ctctgtctatt	ctactgcaac	tgggccccag	240
atgctggtag	atctacttgc	caagaacaag	tcaataccct	tctatggctg	tgctctgcaa	300
ttcttgggtct	tctgtatctt	tgcagattct	gagtggtctac	tgctgtcagt	gatggccttt	360
gatcggtaca	aggccatcat	caacccccctg	ctctatacag	tcaacatgtc	tagcagagt	420
tgtatctac	tcttgactgg	ggtttatctg	gtgggaatag	cagatgcttt	gatacatatg	480
acactggcct	tccgcctatg	cttctgtggg	tctaatagaga	ttaatcattt	cttctgtgat	540
atccccctct	ctcttattac	tctct				565

&lt;210&gt; 506

&lt;211&gt; 978

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g355 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 506

ctcaatttca	ttatcttctt	caggtgaacc	agctatattg	agcctatggc	caaaagaaat	60
ctcagcactg	tgacagagtt	cattcttcta	gtcttcacag	atcacccctga	actggcagtt	120
ccactcttcc	tagtgtttct	cagtttctat	cttgctcactt	ttctggggaa	tgggggggatg	180
atcattctaa	tccaagtggg	tgcccaactc	cacacccccg	tgtacttctt	cctgagccac	240
cttgcttctc	tggatgcctg	ctgtgacctc	gtaatcacc	ctcagattct	ggccacactg	300
gccacagaca	agacagttat	ctcctatggc	tgccgtgctg	tgacgttctc	tttcttcacc	360
atatgtgcag	gcacagagt	ttacctgctg	tcagtgtagg	cctatgaccg	ctttgttgcc	420
attagcaatc	caactgcactg	taacatgacc	atgactccag	gtacctgcag	ggtctttttg	480
gccagtgcct	tcactctgtg	gggtgcaggg	gccattctgc	ataccacgtg	caccttcacc	540
ctctccttct	gttggtgaca	tcagatcaac	ttcttcttct	gtgacctccc	acccctgctg	600
aagctcgctc	gcagcagcat	gacacaaact	gagattgtca	ttctcctttg	tgcaaaatgc	660
atgttcctag	ccaatgtcat	ggttatcctg	atctgtctaca	tgctcattat	cagagccatt	720
ttgaggggtga	agtcggcagg	tgggtaagcc	aagaccttct	ccacctgcac	ctcccatctc	780
accactgttg	tcctcttctt	tgggacactt	gccttcattg	accagagaag	taactccgcc	840
aaatcctcag	aggaagacaa	gatagtgtct	gtcttttaca	ctgtaatcat	ccctatgttg	900
aacccttga	tctacagtct	gaggaacaaa	gatgtaaaag	ctgcatttgg	aaaactcggt	960
ggtaaatcc	aatttcca					978

&lt;210&gt; 507

&lt;211&gt; 983

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g356 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 507

atgtccctt	cccagaccta	tgtcaacatc	tccttcttcc	aaccgcctgc	tcttctcatg	60
attggcatcc	cagggctgga	ggcggttcat	ggctggctcg	ccatccctt	ctcctccatg	120
tacactgtgg	ccctccctgg	gaactgcctg	atcctcctgg	ctgtgaagag	gaacccagc	180
ctgcaccagc	ccatgtgcta	cttctgtctc	atgtgggcgc	tcccaaaagc	gggcctcacc	240
ttgtccacac	tgcccatcac	cttggctgtg	ctctggtttg	accaccggct	catgggcttc	300
aatgcctgcc	tggctccagat	gttcttctct	cactcctctg	tgggtggagt	ctcagtgtc	360
ctggccatat	cctttgacca	ctttgtggcc	atctccaacc	ccctgcacta	tgcagtgtc	420
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atatatgcta	tggggctctac	gtgggtgttt	ctacaggggg	cttagactcg	ctgctcatct	660
ttctgtccta	taccttcac	ctgcacacag	tcatgggtct	ggctgctccc	agggagcgca	720
tctgggccc	caacacctgc	gtttcccaca	ttccggctgt	ctttgtcttc	tttattccag	780
gtatcacctg	gtccatgac	caccattttg	ggaggcacct	gccccacatt	gtacatgtc	840
ttgttaccta	tgtgtacctg	gtgatgcctt	ctgtgtccca	ccccatcatt	tacagtatga	900
agtccaagcc	catcagggag	gccatcctca	ggatgctgat	ggggagaagc	caaggctgat	960
gaaattacaa	aatattatag	ggt				983

<210> 508  
 <211> 933  
 <212> DNA  
 <213> Unknown (H38g357 nucleotide)

<220>  
 <223> Synthetic construct

<400> 508  
 atgggcaagg aaaactgcac cactgtggct gagttcattc tccttggact atcagatgtc 60  
 cctgagttga gagtctgcct ctctctgctg ttcccttctca tctatggagt cacgttggtta 120  
 gccaacctgg gcatgattgc actgattcag gtcagctctc ggctccacac ccccatgtac 180  
 tttttctctca gccacttgct ctctgtagat ttctgctact cctcaataat tgtgccaaaa 240  
 atgttggcta atatctttta caaggacaaa gccatctcct tcctaggggtg catggtgcaa 300  
 ttctacttgt tttgcacttg tgtggtcact gaggtcttcc tgctggccgt gatggcctat 360  
 gaccgctttg tggccatctg taaccctttg ctatacacag tcaccatgtc ttggaagggtg 420  
 cgtgtggagc tggcttcttg ctgctacttc tgtgggacgg tgtgttctct gattcatttg 480  
 tcttagctc ttaggatccc ctctataga tctaattgtga ttaaccactt tttctgtgat 540  
 ctacctctg tcttaagtct tgcctgctct gatatactg tgaatgagac actgctgttc 600  
 ctgggtggcca ctttgaatga gagtgttacc atcatgatca tcctcacctc ctacctgcta 660  
 attctcacca ccacctgaa gatgggctct gcagagggca ggcacaaagc cttctccacc 720  
 tgtgttccc acctcacagc tatcactgtc ttccatggaa cagtccttcc catttattgc 780  
 agggccagtt caggcaatag tggagatgct gacaaagtgg ccaccgtgtt ctacacagtc 840  
 gtgattccta tgcctgaactc tgtgatctac agcctgagaa ataaagatgt gaaagaagct 900  
 ctcagaaaag tgatgggctc caaaattcac tcc 933

<210> 509  
 <211> 621  
 <212> DNA  
 <213> Unknown (H38g358 nucleotide)

<220>  
 <223> Synthetic construct

<400> 509  
 cccctctgc gatgggggtc ctaagagcca gcggaggaag aggggctggc tctcagttcc 60  
 cgcctttttt ttttttctca gtgttttaga cgcccagctg cacaacttga ttgccttaca 120  
 aatgacctgc ttccaggatg cggaaattcc taatttctc tgtgacctt ctcaactccc 180  
 ccactcttgc tgttgtaga ccttcaccaa taacataatc atgtatttcc ctgctgtcat 240  
 atttggtttt ctcccatct ctgggacctt tttctcttac tataaaattg tttcctccat 300  
 tctgagtgtt tcatcatcac gtgggcagta taaggccttc tccacctgtg ggtctcacct 360  
 gtcagttgtt tgcctgattt acggaacggg cgttgaggga tacttcagtt cagatgtgtc 420  
 atcttccccg agaaaggctg cagtggcctc agtgatgtac acggtgatca ccccatgctg 480  
 aacccttca tctacagcct gagaaacagg catattaaaa gtgtcctgcg gcggccgcac 540  
 agcagcaccg tccaatctcc gtgtcttctt aactgttcca ttccttttgt agtgtgggtt 600  
 aacaaaggca gcaaggctca a 621

<210> 510  
 <211> 633  
 <212> DNA  
 <213> Unknown (H38g359 nucleotide)

<220>  
 <223> Synthetic construct

<400> 510  
 atttgactga aattgatctt tggaaatcct agatagtaat agattttcag atgtgtctat 60  
 gattattttg tgggactgtc aacccttgct ttatgacacc atcacaaactc tcaagatgtc 120  
 tggcagaagc tgggtgactgc atattgtaga gggtttgaca aatgtaatcc aatgtatata 180  
 cttcacctgc tcaactctct tttgtgcctt catctatagg tttcactctc tgtgacctcc 240

attgctgctg	accctgaatt	gggtgatagc	ttcctccagc	agctgctgat	ttttcacttt	300
gctctgtata	tgattctgac	cagactagtt	ttgatcctgt	tctctgactt	gttcacacgc	360
aaggccatct	aaacacctgc	aaatcaggtc	tctaggcaaa	gattcctcaa	cctttttcta	420
cctttgcctc	atgcagaact	gcagttcggg	tgattgttga	gactacagct	ttgatctatg	480
tgtgcagcag	taggcaagtc	ccttacaggg	gagagggccg	tgaccatgtt	ttagactgta	540
gtgaacacca	ggctgaccat	tccaatttta	tagcctgagg	aaaaaaaggc	aaaggaggcc	600
ctgaggaaaag	gtcttaataa	agccaagttg	ttc			633

&lt;210&gt; 511

&lt;211&gt; 945

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g360 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 511

atgagttcct	gcaacttcac	acatgccacc	tttgtgctta	ttggtatccc	aggattagag	60
aaagcccatt	tctgggttgg	cttccccctc	ctttccatgt	atgtagtggc	aatgtttgga	120
aactgcatcg	tggtcttcat	cgtaaggacg	gaacgcagcc	tgcaagctcc	gatgtacctc	180
tttctctgca	tgcttgacgc	cattgacctg	gccttatcca	catccaccat	gcctaagatc	240
cttgcccttt	tctgggttga	ttccccgagag	attagctttg	aggcctgtct	taccagatg	300
ttctttatc	atgccctctc	agccattgaa	tccaccatcc	tgctggccat	ggcctttgac	360
cgttatgtgg	ccatctgcca	cccactgcgc	catgctgcag	tgctcaacaa	tacagtaaca	420
gcccagattg	gcatcgtggc	tgtgggtccgc	ggatccctct	tttttttccc	actgcctctg	480
ctgatcaagc	ggctggcctt	ctgccactcc	aatgtcctct	cgcactccta	tttgtgtccac	540
caggatgtaa	tgaagtggc	ctatgcagac	actttgcccc	atgtggtata	tggtcttact	600
gccattctgc	tggtcatggg	cgtggacgta	atgttcatct	ccttgctcta	ttttctgata	660
atacgaacgg	ttctgcaact	gccttccaag	tcagagcggg	ccaaggcctt	tggaacctgt	720
gtgtcacaca	ttggtgtggt	actcgccctc	tatgtgccac	ttattggcct	ctcagtggta	780
caccgctttg	gaaacagcct	tcateccatt	gtgcgtgttg	tcattgggtga	catctacctg	840
ctgctgcctc	ctgtcatcaa	tcccatcatc	tatggtgcc	aaaccaaaca	gatcagaaca	900
cgggtgctgg	ctatgttcaa	gatcagctgt	gacaaggact	tgcag		945

&lt;210&gt; 512

&lt;211&gt; 834

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g361 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 512

atgtatgcct	tggtccacct	gggtaacctg	accattgtcc	tcattcattcg	tgtggagagg	60
cgactgcatg	agcccatgta	cctcttccctg	gccatgcttt	ccactattga	cctagtccctc	120
tcctctatca	ccatgcccga	gatggccagt	cttttccctga	tggtcatcca	ggagatcgag	180
ttcaacattt	gcctggccca	gatgttccct	atccatgctc	tgtagccgt	ggagtcagct	240
gtcctgctgg	ccatggcttt	tgaccgcttt	gtggccattt	gccacccatt	gcgccatgct	300
tctgtgctga	cagggtgtac	tgtggccaag	attggactat	ctgccctgac	caggggggtt	360
gtattcttct	tcccactgcc	cttcacctc	aagtgggtgt	cctactgcca	aacacatact	420
gtcacacact	ccttctgtct	gcaccaagat	attatgaagc	tgctctgtac	tgacaccagg	480
gtcaatgtgg	tttatggact	cttcacatc	ctctcagtca	tggtgtgga	ctctctcttc	540
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cccctcattg	ggctctcggt	ggtgcatagg	ctgggtgggc	ccacctccct	cctccatgtg	720
gttatggcta	atacctactt	gctgctacca	cctgtagtca	accccttgt	ctatggagcc	780
aagaccaaaag	agatctgttc	aagggtcctc	tgtatgttct	cacaagggtg	caag	834

&lt;210&gt; 513

&lt;211&gt; 957

&lt;212&gt; DNA

<213> Unknown (H38g362 nucleotide)

<220>

<223> Synthetic construct

<400> 513

atgctggggtc	cagctttacaa	ccacacaatg	gaaacccctg	cctccttctc	ccttgtgggt	60
atcccaggac	tgcaatcttc	acatcttttg	ctggctatct	cactgagtgc	catgtacatc	120
acagccctgt	taggaaacac	cctcatcgtg	actgcaatct	ggatggattc	cactcggcat	180
gagcccatgt	attgctttct	gtgtgtttct	gctgctgtgg	acattgttat	ggcctcctcc	240
gtgggtaccca	agatgggtgag	catcttctgc	tcgggagaca	gtcccatcag	ctttagtgtc	300
tgtttcactc	agatgttttt	tgtccactta	gccacagctg	tggagacggg	gctgctgtcg	360
accatggctt	ttgaccgcta	tgtagccatc	tgcaagcctc	tacactacaa	gagaattctc	420
acgcctcaag	tgatgctggg	aatgagtatg	gccgtcacca	tcagagctgt	cacattcatg	480
actccactga	gttggatgat	gaatcatcta	cctttctgtg	gctccaatgt	ggttgtccac	540
tcctactgta	agcacatagc	tttggccagg	ttagcatgtg	ctgacccctg	gccagcagt	600
ctctacagtc	tgattgggtc	ctctcttatg	gtgggctctg	atgtggcctt	cattgctgcc	660
tcctatatct	taattctcag	ggcagtattt	gatctctcct	caaagactgc	tcagttgaaa	720
gcattaagca	catgtggctc	ccatgtgggg	gttatggctt	tgtactatct	acctgggatg	780
gcatccatct	atgcggcctg	gttggggcag	gatatagtgc	ccttgccacac	ccaagtgtcg	840
ctagctgacc	tgtacgtgat	catcccagcc	actttaaatc	ccatcatcta	tggcatgagg	900
accaaacaat	tgctggaggg	aatatggagt	tatctgatgc	acttctctct	tgaccac	957

<210> 514

<211> 966

<212> DNA

<213> Unknown (H38g363 nucleotide)

<220>

<223> Synthetic construct

<400> 514

atgaatgaga	caaatacttc	ttgggtgaca	gaatttgtgt	tgctgggact	gtctagttca	60
agggagctcc	aacctttctt	gtttcttata	ttttcactac	tttatctagc	aattctgttg	120
ggcaactttc	tcatactcct	cactgtgacc	tcagattccc	gccttcacac	ccccatgtac	180
tttctgcttg	caaacctgtc	atztatagac	gtatgtgttg	cctcttctgc	taccctaaa	240
atgattgcag	actttctggt	tgagcacaag	actatttctt	ttgatgccca	cctggcccag	300
attttctttg	ttcatctctt	cactggcagt	gaaatgggtc	tcctagtttc	catggcctat	360
gaccgttatg	ttgctatatg	caaacctccc	cactacatga	caatcatgag	ctgctgtgta	420
tgtgttgctg	tcgtcctcat	ttcctgggtt	gtgggcttca	tccataccac	cagccagtgt	480
gcattcacgt	taatctgcca	ttttgtggtc	ctaataagggt	agatagtttt	tttctgtgac	540
cttctcttag	cgacgaagtt	agcctgcata	gacacttatg	ttgtcagcct	actaatagtt	600
gcagatagtg	gctttctttc	tctgagttcc	tttctcctct	tggttgtctc	ctacactgta	660
atacttggtta	cagttaggaa	tcgctcctct	gtaagcatgg	tgaaggccca	ctccacattg	720
actgctcaca	tcactgtggg	cactttatct	tttggatcgt	gtattttcat	ctatgtgtgg	780
cccttcagca	gttactcagt	tgacaaagtc	cttgctgtat	tctacaccat	cttcacgtct	840
attttaaacc	ctgtaatcta	catgctaaga	aacaaagaag	tgaaggcagc	tatgtcaaaa	900
ctgaagagtc	ggtatcagaa	gcttggtcag	gtttctgtag	tcataagaaa	cgttcttttc	960
ctagaa						966

<210> 515

<211> 966

<212> DNA

<213> Unknown (H38g364 nucleotide)

<220>

<223> Synthetic construct

<400> 515

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atcccaggac	tgcaatcttc	acatcttttg	ctggctatct	cactgagtgc	catgtacatc	120

atagccctgt	taggaaacac	catcatcgtg	actgcaatct	ggatggattc	cactcggcat	180
gagcccatgt	attgctttct	gtgtgttctg	gctgctgtgg	acattgttat	ggcctcctcg	240
gtggtaccca	agatgggtgag	catcttctgc	tcaggagaca	gctcaatcag	ctttagtgtc	300
tgtttcactc	agatgttttt	tgtccactta	gccacagctg	tggagacggg	gctgtgtgtg	360
accatggctt	ttgaccgcta	tgtagccatc	tgcaagcctc	tacactacaa	gagaattctc	420
acgcctcaag	tgatgctggg	aatgagtatg	gccatcacca	tcagagctat	catagccata	480
actccactga	gttggatggg	gagtcaccta	cctttctgtg	gctccaatgt	ggttgtccac	540
tcctactgtg	agcacatagc	tttggccagg	ttagcatgtg	ctgaccccg	gcccagcagt	600
ctctacagtc	tgattgggtc	ctctcttatg	gtgggctctg	atgtggcctt	cattgctgcc	660
tcctatatct	taattctcaa	ggcagtattt	ggtctctcct	caaagactgc	tcagttgaaa	720
gcattaagca	catgtggctc	ccatgtgggg	gttatggctt	tgtactatct	acctgggatg	780
gcatccatct	atgcggcctg	gttggggcag	gatgtagtgc	ccttgacac	ccaagtccctg	840
ctagctgacc	tgtacgtgat	catcccagcc	accttaaatc	ccatcatcta	tggcatgagg	900
accaaacac	tgcgggagag	aatatggagt	tatctgatgc	atgtcctctt	tgaccattcc	960
aacctg						966

&lt;210&gt; 516

&lt;211&gt; 942

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g365 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 516

atggaggggg	tcaactattc	cagagtatct	gaattcatgt	tacttggact	tactgattct	60
cctgaactcc	agatattctt	ttctgtgggtg	ttttctgtct	tctatttaat	gaccatgttg	120
ggcaactgcc	tgattttgct	cactgtccta	tcacctcac	accttctctc	tcgcatgtac	180
ttcctgctca	gcaacatgtc	tcattgacat	gtgcctgtcc	tcctttgcc	caccaaagat	240
gattatggac	ttttttgctc	tgcgtaagac	catctctttt	gaaggctgca	tttctcagat	300
ctttttttta	cacctcttca	atgggactga	gattgtgctg	ttgatctcca	tgtcttttga	360
caggatatatt	gccatatgta	aacctctcca	ctattcaaca	attatgagcc	aaagagtgtg	420
tgttgagctt	gtggcagttt	cttgttggac	agtgggcttt	ctacatacaa	tgagccaatt	480
agttttttcc	tctatttgcc	cttctgtgtt	cccaatgttg	tagacagttt	tttctgtgat	540
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gttcttaata	ttgtcaggga	ctactcctcc	acaggatcct	ccaaggctct	ttctacctgt	720
acagcgcaatt	ttattgttgt	gttaatgttc	tttgggcect	gtattttcat	ttatgtgtgtg	780
ccttccacaa	acttctctgg	agacaaaatt	ctctccgctt	tctataccat	cttcactccc	840
tttctgaatc	cacttatcta	tactttgaga	aaccaggaag	tgaagacagc	aatgaagaag	900
aaactgaata	ttcagtattt	cagtcttggg	aaaactgctc	cg		942

&lt;210&gt; 517

&lt;211&gt; 952

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g366 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 517

atgctcactt	ttcataatgt	ctgctcagta	cccagctcct	tctggctcac	tggcatccca	60
gggctggagt	ccctacacgt	ctggctctcc	atcccccttg	gctccatgta	cctgggtggct	120
gtggtgggga	atgtgaccat	cctggctgtg	gtaaagatag	aacgcagcct	gcaccagccc	180
atgtactttt	tcttgtgcat	gttggctgcc	attgacctgg	ttctgtctac	ttccactata	240
cccaaaacttc	tgggaatctt	ctgggtcggg	gcttgtgaca	ttggcctgga	cgctgcttg	300
ggccaaatgt	tccttatcca	ctgctttgcc	actgttgagt	caggcatctt	ccttgccatg	360
gcttttgatc	gctacgtggc	ccatctgcaa	cccactacgt	catagcatgg	tgtcacttta	420
tacagtgggtg	ggtcgttttg	ggcttgtttc	tctcctccgg	ggtgttctct	acattggacc	480
tctgcctctg	atgatccgcc	tgcggctgcc	cctttataaa	acccatggtta	tctcccactc	540
ctactgtgag	cacatggctg	tagttgcctt	gacatgtggc	gacagcaggg	tcaataatgt	600

ctatgggctg agcatcggtt ttctgggtgtt gatcctggac tcagtggcta ttgctgcac	660
ctatgtgatg attttcaggg ccgtgatggg gtttagccact cctgaggcta ggcttaaaac	720
cctggggaca tgcgcttctc acctctgtgc catcctgac ttttatgttc ccattgctgt	780
ttcttccctg attcaccgat ttggtcagtg tgtgcctcct ccagtccaca ctctgctggc	840
caacttctat ctctcattc ctccaatcct caatcccat gtctatgctg ttcgaccaa	900
gcagatccga gagagccttc tccaaatacc aaggatagaa atgaagatta ga	952

&lt;210&gt; 518

&lt;211&gt; 301

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g367 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 518

cagatgctga cagattgggtg gggacctaata aggaccacaa gttacgtgaa ctcaccattc	60
aattccttgt ctctctgtag ttatgtgcca ctatataatt tctacaatta ttttataatt	120
atatgccatc ctttgaataa tttgttaatc atgaacctat atctcctcct taatcttact	180
ttaatacttg agggataatt cattcatttt tggcatcatg tatactctca tcctaaaaat	240
tcgaaggatg aaaaaaaaaa accttcagat aattccctc attggttgct gccttgctga	300
a	301

&lt;210&gt; 519

&lt;211&gt; 506

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g368 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 519

aatagtgagt ccaagcattt cttactctta aaattgtgtt caatgtttgc agtcactttc	60
ctatccctga tattatcagg aaagggcctg caatttcctt tctacttctc tgagtcaact	120
gcaaagtctc agatgttttc acagttgaga caagagaaca agaagcacca atgaaaacca	180
cgggggttcta tggaggcatc atggtgtggt gagtagaagc atgctactct agctgtatct	240
cactgggttc aaatcctgac tatacggcat atggtgcatt aacagcccgc tgaccacaag	300
aatttctatg ctggtaaaaat aggtttataa taatgccagt caatctaaag atgctttaag	360
tgaagactat ttggtgtttt tcaaggactc aataatcatt aactgtgatc acgatctttc	420
ccttacctac tttcaataag taaataattt acatttatta aacaaaagaa atttaattct	480
gcttttctga aacaacacaa ttctat	506

&lt;210&gt; 520

&lt;211&gt; 837

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g369 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 520

ctccctcccc tgtttttttag agtttttgta attttggttt gtttcactac tctttgttaa	60
gctatgcatt ctctttctaa ttattctact tgtaaattt ttattaaaaa caaaaatagc	120
aatgacatat ttacatatt tatctaatta taagctcaaa gcatgaaata gtattgactt	180
ccacatacat atgttttgtt acgtgtatat tatgaataaa ttagttcatc tcaaatatga	240
aactttaaca tctttaccat ttttttgga tagtctagga ttttagacac ttcttaattt	300
tgttttacct ttatgtcac atattcttca ttaatagtta ttaatatgtt gtattttcta	360
gctgttcttg caaaaagtag ttttatttta tgtttcaaca gtctcagcgt caactgtgac	420
actttctgtg tttggctttc ttgttttgga attgtttatc ttgatgtgca tccatttgca	480
cattgttatg ttctcaaaa gattatttaa atgttatgtg tttttatgat cactcgtttt	540
ttgcttcatg catgcattat tgccttaaac attaaaaaat acttgttttg atgtgctttt	600

tatctttata tgtgaaaaat ctttgctggc taatatgtct tttgtcacia ttgtttcttc	660
cttaattctc ttaacgaatt aagagattat ttcattttct tctgtcattt tatgtggtac	720
aatacatctg aatctgtcct catttttctt acatagggtt ttcattttct ttttctgctt	780
gaaattgcc aatatatct aaatgttgac ctacttagta ttatactgac tttggta	837

&lt;210&gt; 521

&lt;211&gt; 461

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g370 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 521

tgcaccatgt gtgtttggct cttagcttga gacaggcaaa tccacataca ctcacattcc	60
aacaagccaa agcaagtcac ccacccatt gcttctggga caaggatgta cattcctcct	120
gggcgtgggg gtgcgggtac cgcaagggga ataaattttt cctgagctac gatacactct	180
cccacaaaa gtcatacacc catttagata acaacttttc ttgagtagtt cagatatcat	240
caatgatcca catattgata aacatgactc gacactaata acactgtgag cattttacac	300
tattttctat aaactccact atgtccatt tattctcaga aattctctct atgatatact	360
tcatgggcac aaagaagaat gagtgaaagc cagcaaaaa ggactgtgaa agccactaaa	420
aagggtgga ataaatggga caaatcatca tactcttcta t	461

&lt;210&gt; 522

&lt;211&gt; 554

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g371 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 522

cctgctcacc ccggttcccc ccaccaccct ctctttcccc cttacatcta cccaaaaact	60
ttttccccac catctttccg caaaaccttc tctcctcctt gttcaccacc gtttttcccc	120
ctccacctac ccccaacatt ttttccccac cgtcttttcc tcaactgtctt ttttgcaaca	180
ccttctctcg ctgcacatcc tcttttccct ttggcactaa ccaccctctt tactcctcca	240
tctaccccaa aactattttc cccttcctac cgtccagcc acactgcagt ctccgtcgt	300
gccaccaacc gcagcgaggg gagctgtggg gccgcagcca cagcctccag catgcagcgg	360
tggctagccc ttgtcctggg cctctaagcc gggaacggag cagccccggc cgcagacacg	420
catgagccta gaacggcctg acacccttc agcaccattt atatactgag gttatgcata	480
tgaggttcct ggactacatg ttccaggatt gggtaaagaga aaacgcagag gcctactctg	540
attggacttt gttt	554

&lt;210&gt; 523

&lt;211&gt; 424

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g372 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 523

tatatagaaa tggacaacta ttttctaaca taactataac gatattttact atttttccat	60
tttataatct ctactcaata ttttggtatt aaaaaattca tcttaacttc tttgttggct	120
tattgttttt gatgttcagc attactaaat ttttgactta tggtttgaaa tggctgtctc	180
ttcctgattg ctgatcctgg tatcaacatg cctgatttaa cccttaacaa attctattct	240
tacaaaatag ctgaagttgg ttggagggtt atttttacca tttcttttat ttgctgtccc	300
ttttgataaa attattttcc ttagttaaaa aatgtattta aataagtaaa taatatctgt	360
gctagttggg actcgggtgga catttcagag gtgtgtccat actttatgta ttttatcact	420
gttt	424

<210> 524  
 <211> 246  
 <212> DNA  
 <213> Unknown (H38g373 nucleotide)

<220>  
 <223> Synthetic construct

<400> 524  
 aatgtattta ggtaatttct tgacttctgc agggactctg atatacacag agcgtacctg 60  
 tgtatactgt ccagtttagct cagattctca gttttgggca ttttctaagg gagggcaatg 120  
 aacatcctga taggtttaac taaggtttta aaatgtccaa ttttatgtgt ggtttttaac 180  
 cacacctgca tcctaattac gaccttggct gttatagctt ataggtttag gcaatctgga 240  
 tatagt 246

<210> 525  
 <211> 619  
 <212> DNA  
 <213> Unknown (H38g374 nucleotide)

<220>  
 <223> Synthetic construct

<400> 525  
 gaaattatat tgattgggat ttctctcaaa ctaatctagt tgtattcacc attattaaaa 60  
 ttaagtgaca ctcaattgga ctaagtagca ataaaaatat gagacttcct agtgattttt 120  
 ttttatccca agccatttac tactgatggg ccttgatgtg tgtgcttgaa aacaaaacat 180  
 atgcaagtgt tagactgggt tgaagatttg ggtggtgaaa gttagctaata tagatgtcag 240  
 tgctctatct agaagccaat cttggaaaata tggtagaatg ccctttttaa atagctgaaa 300  
 agaaattatt ttgtgtttgt tttcacttca ttcttgtttg gttgtatagc atttaagtga 360  
 aaggagattt tttatcctta tactagtatt tgcatttacc atcttttaata gatggagaga 420  
 aaagttagtt gtcttacttt gatatgtttg gcataggacc tatgacactt ttgatgtttt 480  
 tggtcacagt tctgtcacta gaatgctagc aattagatat atgcaatgag taacctactt 540  
 taatacaatg gtttgaagta ccacaggcag taactcctaa acaccaaata acagtgtttt 600  
 aatttgtaac atgttaaag 619

<210> 526  
 <211> 939  
 <212> DNA  
 <213> Unknown (H38g375 nucleotide)

<220>  
 <223> Synthetic construct

<400> 526  
 atgagaaatt tgagtggagg ccatgtcgag gagtttgtct tgggtggggtt ccctaccacg 60  
 cctccccctc agctgctcct ctttgctcct ttttttgcaa tttacctct gacattgttg 120  
 gagaatgcac ttattgtctt cacaatatgg cttgctccaa gccttcacg tcccatgtac 180  
 tttttccttg gccatctctc tttcctggag ctatggtaca tcaatgtcac cattcctcgg 240  
 ctcttggcag cttttcttac ccaggatggg agagtctcct acgtagggtg catgacccaa 300  
 ctgtacttct ttattgcctt agcctgtact gaatgtgtgc tgttggcagt tatggcctat 360  
 gatcgctacc tggccatctg tggaccctc ctttacccta gtctcatgcc ttccagtctg 420  
 gccactcgcc ttgtgtgtgc ctcttggggc agtggcttct tcagctccat gatgaagctt 480  
 ctttttattt cccaattgtc ctactgtgga cccaacatta tcaaccactt tttctgtgat 540  
 atttccccac tactcaacct cacctgctct gacaaggagc aagcagagct agtagacttc 600  
 cttctggccc tgggtgatgat tctactccct ctattggctg tggtttcac atactatgcc 660  
 atcattgcag ccatectgag gateccctacg tccaggggac gccacaaagc cttttccact 720  
 tgtgccgctc atctggcagt ggttgttatc tactactcct ccactctctt cacctatgca 780  
 cgcccccggt ccatgtacac cttcaaccac aacaagatta tctctgtgct ctacactatc 840  
 attgtaccat tcttcaacc agccatctac tgcctgagga acaaggagggt gaaggaggcc 900  
 ttcaggaaga cagtgatggg cagatgtcac tatcctagg 939

<210> 527  
 <211> 965  
 <212> DNA  
 <213> Unknown (H38g376 nucleotide)

<220>  
 <223> Synthetic construct

<400> 527  
 cacacagagc cactgaatct cacagggtgtc tgagaattcc tcctcctggg actctcagag 60  
 gatccagaac tgcagccggt cctcgctttg ctctccctgt ccctgtccat gtatctgggtc 120  
 acggtgctga ggaacctgct cagcatcctg gctgtcagct ctgactccca cctccacacc 180  
 cccatgtact tcttcctctc caacctgtgc tgggctgaca tcggttacac ctcgccacg 240  
 gttcccaaga tgattgtgga cagcagctcg catggcagag tcattctctca tgctggctgc 300  
 ctgacacaga tgtctttctt ggtccttttt gcatgtatag aagacatgct cctgactgtg 360  
 atggcctatg actgctttgt agccatctgt tgccctctgc actaccagc catcgtgaat 420  
 cctcacctct gtgtcttctt cgttttggtg tcctttttcc ttagcctggt ggattcccag 480  
 ctgcacagtt ggattgtgtt acaattcacc atcatcaaga atgtggaaat ctctaatttt 540  
 gtctgtgacc cctctcaact tctcaaactt gcctgttctg acagcgtcat caatagcata 600  
 ttcatatatt ttgatagtag tatgtttggt tttcttccca tttcagggat ccttttgtct 660  
 tactctaaaa ttgtccctct cgttctaaag atgtcatcgt cagatgggaa gtataaagcc 720  
 ttctccacct gtggctctca cctagcagtt gtttgcgtgat ttgatggaac aggcattggc 780  
 atgtacctga cttcagctgt ggcaccaccc cccaggaatg gtgtcgtgga gtcagggatg 840  
 tacgctgtgg tcaccccat gctgaacctt ttcattctaca gcctgagaaa caggcacaca 900  
 caaagtgcc tgcgagggt ggcacagaa cagttgaatc tcatgatctc ttgcatcctt 960  
 tttct 965

<210> 528  
 <211> 557  
 <212> DNA  
 <213> Unknown (H38g377 nucleotide)

<220>  
 <223> Synthetic construct

<400> 528  
 ccagtacccc agcatctgtt cttcttcctg aaagtgactg gccaccattg acctaaatca 60  
 gaaacctatg atttgtccca gatttttctt tttcccttgc tcttcataac tatcagtgat 120  
 actaattcta aactaacctt aacgaactgc atctgtgccc ctctctcacc tctcctccct 180  
 cactttcagt gcattgactg aggctacacc atgtgaatta ttaccatggc atgctaacag 240  
 aattattgct tccaatggta ccatgccata attcatcctt catatgggtg ccaataaatt 300  
 tttaaaatat ttatttgtat ctgctacttc tcagggtaaa agcttcccag catgttgaag 360  
 atggaatgca aacagctctg catgcatgcc ctttgcctcat gcagctccta ttgtccatcc 420  
 cccactctta cccactcttg ctggataatt cctttttatt ctttaagact catccaagaa 480  
 gcaagctctc atatttccct catatacttc tgcatagacc ctttacatat gttaatcatc 540  
 tgttaccttt tctcttg 557

<210> 529  
 <211> 1007  
 <212> DNA  
 <213> Unknown (H38g378 nucleotide)

<220>  
 <223> Synthetic construct

<400> 529  
 tctagagacc cacagaatct aacagatgtc tctatatctc tcctcctaga agctcagagg 60  
 atccagaacg gcagccggtc ctactgggc tgttcctgtc cactgacctg gtcattggcg 120  
 tggggaacct gctcatcacc ctggccatca gccctgactc ccacctccac acccccatgt 180  
 acttcttctt ctccaacctg tccttgctgt acatcagttt cactccacc acagtcccca 240

agatgactgt	ggacatccaa	tctcacagca	gagtcacctc	ctatgcaggc	tgccctgactc	300
agatgtctct	ctttgccatt	tttggaggca	tggaagacag	acatactcct	gagtgtgatg	360
gcctatgacc	agttttagc	caaatgtcac	cctctatata	attcagccat	catgaacccg	420
tgtttctgtg	gctttctact	tttgttgctt	tttttttttc	cctcagtcct	ttagatgcc	480
agctgtacaa	tttgattgcc	ttacaaatga	cctgcttcaa	ggatgtggaa	attcctaatt	540
tcttctgtga	cccttctcaa	ctcccccatc	ttgcatgttg	tgacaccttc	aacaataaca	600
taatcctgta	tttccctgat	gccatatttg	gttttcttcc	catctcgggg	acacttttct	660
cttacgataa	aattgtttcc	tccattctga	gggtttcatc	atcagggtggg	aagtataaag	720
ccttctccac	ctatgggtct	cacctgtcag	atgtttcctg	attttatgga	acaggcggtg	780
gagggtagct	cagttcagat	gtgtcatctt	ccccgagaaa	gactgcagtg	gcctcagtga	840
tgtagcgagt	ggtcaccccc	atgatgaacc	ccttcactta	cagtcggaga	aacagggata	900
tgaaaagtgt	cctgcggcgg	ccgcacggca	gcacgttcta	atctcaatac	cttcttatct	960
gttccattcc	ttttgcagtg	tgggtcgaag	aaggctgcat	gatgaaa		1007

&lt;210&gt; 530

&lt;211&gt; 471

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g379 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 530

tttttaaaaa	tgagattaaa	ggaattaatg	taagatagaa	ccataatgga	ttattggagg	60
gaaggtaggc	acatttaggg	gatgttcttg	gcctttccgt	ttggctgacc	tatcccaaaa	120
cttttctctt	gggtctctat	cagagacatg	gcagtaacct	ggatggacca	taggcacgag	180
tcttgtagcc	cattcctccc	gaagctgcag	cctttttcat	cctgccatgt	atctgagtta	240
tgacagtgcc	ttgacacctt	cactaaatca	tatataactt	gaatccgggg	actcaagggg	300
ttcaaccatc	tttgttttct	tctccattac	tgctactgtg	ctagagccca	agtctcctga	360
aatgcgccct	ggagccttgc	tcaaagatgt	caacccaaca	tgctgatcag	gtagctatct	420
tgtctgaagc	tggtagtcca	tgacaggctc	tgacatgtgc	tgagcttgc	c	471

&lt;210&gt; 531

&lt;211&gt; 974

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g380 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 531

atgaagatca	accagacaat	cctgaaggaa	ttcattcttg	ttggcttttc	tgtgtaccca	60
catgtacaga	catttctttt	tgtgggtctt	ttttgtctct	accttctcac	ccttgcagg	120
aatctgacca	tcatgggtct	aacttgagtg	gacaggctcc	tccacacccc	tatgtatctc	180
ttccttagtg	cactctcctt	ctctgagacc	tgctatacac	tgaccatcgt	ccccaaagatg	240
ctggaagatc	tactggccaa	ggacagaagc	atttcagtc	cagggtgtag	cttacagatg	300
tgcttcttct	tgggacttgg	tggcacaaac	tgtatcatc	tcactttgat	gggatatgac	360
cgcttctctg	ccatttgtaa	ccctctaaga	tatccactgc	ttatgaccaa	cattgtatgt	420
ggacaacttg	tggcctctgc	ttgcaactgc	ggcttcttta	tctctcttac	agagactgca	480
ctgatattca	gggactcttt	ctgcagaccc	aaccttgtca	aacacttctt	ctgccatattg	540
ctggcagtta	ttaggctgtc	ttgtatagac	agtaaccaca	cagaattcat	tataaactgt	600
atctcagtg	ctgggttgct	gggtaccctt	ctgctcatca	tcctgactga	tgtcttcatt	660
atttctactg	tcttcaggat	cccttcagct	gagggcaagc	agaaggcctt	caccacctgt	720
gcctccacc	tcaccgtgg	tataatccac	tttggtttg	catctattgt	ttatttgaag	780
ccagaagcct	caggagatga	cacactcata	gcagtcctt	atactgtcat	taccccttc	840
ctcagcccca	tcatattcag	cctgaggaat	aaggacatga	aaaatgcttt	tagaagaatg	900
atgggaaaca	cagttgcctt	gaaaaaataa	tcttgggttg	ttgctgcttg	tttgaagaag	960
ggctcaatgt	cccc					974

&lt;210&gt; 532

&lt;211&gt; 939

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g381 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 532

atggggcaga	ccaacgtaac	ctcctggagg	gattttgtct	tcctgggctt	ctccagttct	60
ggggagttgc	agctccttct	ctttgccttg	ttcctctctc	tgtatctagt	cactctgacc	120
agcaatgtct	tcattatcat	agccatcagg	ctggatagcc	atctgcacac	ccccatgtac	180
ctcttctctt	ccttctctatc	cttctctgag	acctgctaca	ctttgggcat	catccetaga	240
atgctctctg	gcctggctgg	gggggaccag	gctatctcct	atgtgggctg	tgctgcccag	300
atgttctttt	ctgcctcatg	ggcctgtact	aactgcttcc	ttctgggctgc	catgggcttt	360
gacagatatg	tggccatctg	tgtctccactc	cactatgcc	gccacatgaa	tcctaccctc	420
tgtgccagc	tggtcattac	ttccttctctg	actggatacc	tctttggact	gggaatgaca	480
ctagtatttt	tcacctctc	attctgcagc	tcccatgaaa	tccagcactt	tttttgtgac	540
acgccacctg	tgtcgagcct	agcctgtgga	gatacaggcc	cgagtgcgct	gaggatcttt	600
atcctcagtc	ttttggctct	cttggctctcc	ttcttcttca	tcaccatctc	ctacgcctac	660
atcttggcag	caatactgag	gatccccctct	gctgaggggc	agaagaaggc	cttctccact	720
tgtgcctcgc	accttacagt	ggtcattatt	cattatggct	gtgcttcctt	cgtgtacctg	780
agggccaaag	ccagctactc	tcttgagaga	gatcagctta	ttgccatgac	ctatactgta	840
gtgaccccc	tccttaatcc	cattgtttat	agtctaagga	ctagggctat	acagacagct	900
ctgaggaatg	ctttcagagg	gagattgctg	ggtaaaagga			939

&lt;210&gt; 533

&lt;211&gt; 866

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g382 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 533

cttttgtttt	ttatccttct	gctcctcatt	tacctattca	ccatcattgg	tagtcttatg	60
gtgttctttg	ccatcaaact	ggatttctgc	ctgcacagct	ccttgatatt	cttcatcagt	120
gtcctctcct	tcctagagat	ctggtatacc	accatcacca	tcaccaagat	gttcttcaac	180
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attctaggtt	gttgcatctg	tggcttcttc	acgctgctcc	ctgagattgc	ttggatatcc	420
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gcagtgatcc	taagaaactg	ctctgctgat	ggatgccaaa	aggcattttc	tacctatgct	660
ttccaccttg	ctattttctt	aatctttttt	ggaagtgtag	ccctgatgta	cctgctcttc	720
tctgccaaagt	actccttttt	ctgggacaca	accatcagcc	taatgtttgc	agtgtgttca	780
ccgacacaat	catctgtagt	ctgaggaata	aagagataaa	ggaagcaata	aaaaagcaca	840
tgtgccaatc	aatgatatgc	acacat				866

&lt;210&gt; 534

&lt;211&gt; 954

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g383 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 534

atggagagcc	ccaatcgaac	caccattcag	gagtttatct	tctccgcttt	cccttattcc	60
tgggttaagt	ctgttgtctg	ctttgttcca	ctgctcttca	tctatgcttt	cattgttgtt	120
ggaaacctgg	tcatcatcac	agtggtccag	ttgaatactc	acctccacac	tcccatgtat	180

acttttatca	gtgctctttc	tttcctggag	atttggtata	ccacagccac	aatcccaaag	240
atgctgtcta	gcctgcttag	tgagaggagc	atttccttca	atgggtgtct	cctgcagatg	300
tatttcttcc	attccaccgg	catctgtgag	gtgtgtctct	tgacagttat	ggcctttgac	360
cactacctgg	ccatatgcag	ccctcttcat	tatccctcta	tcattgacccc	caagctatgt	420
acccaactga	ctttaagttg	ctgtgtttgt	ggctttatca	caccccttcc	tgagattgcc	480
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ggatattgtg	ctgtaattct	acgtattcat	tcagctggag	gccgccgcac	agcattttcc	720
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gttttgtctc	ccttcttcaa	ccccattatc	tatagcctga	ggaataaaga	aataaaagaa	900
gctataaaaa	agcacatagg	tcaagctaag	atattttttt	ccgtaagacc	aggg	954

&lt;210&gt; 535

&lt;211&gt; 386

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g384 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 535

ctactgaaac	tctcctgctc	agacacacac	ctcaatgagg	tcataatcct	tagtgagggg	60
gccctgggtca	tgatcacccc	atttctttgc	atcctggctt	cttatatgca	catcacctgc	120
actgtcctga	aggteccatc	cacaaaggga	aggtggaaag	ccttctccac	ctgtgggtct	180
cacctggctg	tggttctcct	cttctacagc	accatcattg	ctgtgtattt	taaccctctg	240
tcctcccact	cagctgagaa	agacactatg	gctactgtgt	tgtatacagt	agtgactccc	300
atgctaaacc	ctttatctac	agcctgagga	acaggtactt	gaaaggggct	ctgaaaaaag	360
tagttggcag	ggtgggtgtt	tctgtc				386

&lt;210&gt; 536

&lt;211&gt; 486

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g385 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 536

ctgtcatca	tcccagccat	tgccactgac	acccggctct	ctgtgctcgt	gcgctttttc	60
cttgccaacc	tggccttcgt	ggtaacttgc	ttcacctcca	ccaccatccc	caagatgctg	120
gacgtgcaaa	gagatccctt	gtgtcatgtc	aggatgcaaa	gggattcctt	atgctgggtg	180
cctgaccag	atgctcttct	tcattctgtta	ggcatccaca	gcttctctgct	gactgcaatg	240
gccaatgaac	actgtgtggc	catctgtcac	tctctgaact	ccatcagggtc	tgtgacacca	300
tagctctgtg	gcctcctggg	ggtagcctcc	tggaccttcg	cattcaggaa	tgccctgacc	360
cacccagtgt	tactgacccg	cctctcactc	tgcacctacg	agtgggtcag	ccatgtcttc	420
tgcaacctca	gccagctgct	gaagttggcc	tgtcagacg	ccactctcaa	caatgtgacg	480
gtgcaa						486

&lt;210&gt; 537

&lt;211&gt; 980

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g386 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 537

atgttaaccc	ctaataatgc	ctgctccgtg	cctacctctt	tccgggtcac	tggcatccct	60
ggcctggaat	ccctgcacat	ctggctctcc	atcccccttg	gctccatgta	cctggtagct	120

gtgctgggga	acataacccat	cctggcagtg	gtaaggatgg	agtacagcct	gcatcagccc	180
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gcccagatgt	tcttcattca	ttgctttgcc	actgttgagt	caggcatctt	ccttgccatg	360
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cctatgtgat	gattttcagg	gctgtaatgg	gcttggccac	ctctgaagcc	aggcttaaaa	720
ccttagggac	atgtggctct	cacatctgtg	ccatcctcgt	cttctacatc	cccattgctg	780
tttctctct	cacacaccgc	tttggccatc	gtgtgcctcc	ccatatccat	atccatatcc	840
atatccatat	ccatatccat	atccttttgg	ccaacattta	cctcctcacc	ccacctatcc	900
tcaaccaaat	agtctatgct	gtccgcacaa	agcagatccg	agaggctctt	ctccatatta	960
aggcaaggac	tcaaaccagg					980

&lt;210&gt; 538

&lt;211&gt; 967

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g387 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 538

gtagcctgct	acctccctga	gctgtagtgg	gatgtccagg	gggtaaagag	aatgagacag	60
gagttggcga	gttcctcttg	ctcagcatca	ccagtgcact	agagaagcag	caggccctct	120
tctggctctt	cctgtgtatg	cacttagtca	ctgaggctgg	aaacacaccc	atcatcctgg	180
gcatcggtc	caaccctcgc	ctgcacaccc	ccaagtctct	gggtcaacat	gtggcaggaa	240
tcaacatctg	cttcacaccc	aacctgaccc	ccaagtctct	gggtcaacat	gtggcaggaa	300
cagggatgat	cacgatctct	tctcccaggt	gcttgactca	gatgtacttc	ctcatctcct	360
ttgccaacgt	ggacaccttt	ctgctggcca	tcatggcact	ggaccactat	gtggccatct	420
gcagcgccct	gcgggtactg	tccatcatca	cccccggtc	tgtcaggggc	tggccgtgct	480
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ctccctgtgc	gtcctctctg	gtctcctaca	tccgcattgc	tgcagccatc	ctccggatcc	720
cctctcctac	aagaaggcgc	aaggcatgtt	ccatagttag	ctccacactg	tctctgggtca	780
ccctgttcta	tggaaactgtc	ctggggatct	gcatatgacc	cccagactcc	ttctcagccc	840
aggacaccat	agcaaccatc	atgtacactg	tggtagacctc	tatgtctaac	cccttcatct	900
acagtctgat	gaacaaggag	gtccaggagg	ccgtgagaag	gctcttcagt	aggggctcac	960
actcatc						967

&lt;210&gt; 539

&lt;211&gt; 603

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g388 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 539

cttcattttt	gtgggataga	tgtgacctca	taccaggctt	gacagatatt	ggcatagcaa	60
cccctacgac	actacataat	gtgggcaacg	cattgtcgca	ttatgtctgc	gcatgggaat	120
tgctttctcc	attcgtttgag	ccagtgggcc	tttgccgtgc	acttaccctt	ctgtgggtccc	180
aatgagttcg	atagttttta	ttgtgacctt	cctagggtaa	tcaaacttgc	ctgtacagat	240
acctacaggc	tagatattat	ggtcattgct	aacagtgggtg	tgtcactgtg	gtgttctttt	300
gttcttctaa	tcatttcata	cactatcacc	ctaataacca	tccagcatcg	cccttttagat	360
aagtcgtcca	aagctctgtc	cactttgact	gtcaccatta	cagtagttct	tttgttcttt	420
ggaccatgtg	tctttattta	tgcctggcca	ttccccatca	agtcattaga	ttaaattcctt	480
gctgtatttt	attctgtgat	caccctctct	ttgaacccaa	ttatatacac	actgagggaac	540

aaagacatga agacggcaat aagacagctg agaaaatggg atgcacattc tagtgtaaag 600  
 ttt 603

<210> 540

<211> 935

<212> DNA

<213> Unknown (H38g389 nucleotide)

<220>

<223> Synthetic construct

<400> 540

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gtgggtggga	atgtgaccat	cctggctgtg	gtaaagatag	aacgcagcct	gcaccagccc	180
atgtactttt	tcttgtgcat	gttggctgcc	attgacctgg	ttctgtctac	ttccactata	240
cccaaacttc	tgggaatctt	ctgggtcggg	gcttgtgaca	ttggcctgga	cgccctgcttg	300
ggccaaatgt	tccttatcca	ctgctttgcc	actggtgagt	caggcatctt	ccttgccatg	360
gcttttgatc	gctacgtggc	catctgcaac	ccactacgtc	atagcatggg	gctcacttat	420
acagtgggtg	gtcgtttggg	gcttgtttct	ctcctccggg	gtgttctcta	cattggacct	480
ctgcctctga	tgatccgcct	ggggtgcc	ctttataaaa	cccatgttat	ctcccactcc	540
tactgtgagc	acatggctgt	agttgccttg	acatgtggcg	acagcaaggt	caataatgtc	600
tatgggatga	gcacggctt	tctgggtgtg	atcatggaat	cagtggatag	tgatgcatca	660
taggtgagga	gtatcagggc	cgtgatgggg	ttagccaatc	atgaggatag	gattagagac	720
catggggaca	ggcgaataac	acatatgtgc	catcatgata	ttataggatc	ccagtgatgt	780
atattccatg	agatcaccca	gatggctcagt	gtgtgcatca	tccagtcac	aatatgatgg	840
ccaggatata	tatcatcagt	catccaagca	tcaagccag	tgtataggat	gatcgcacca	900
agcagagccg	agagagctat	atccaaagag	caaga			935

<210> 541

<211> 945

<212> DNA

<213> Unknown (H38g390 nucleotide)

<220>

<223> Synthetic construct

<400> 541

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cacagtactg	ctgaccttgt	cctcttctcc	gtggttatgg	cggtcttcac	agtggccctc	120
tgtgggaatg	tcctctcat	cttctctatc	tacatggacc	ctcaccttca	cacccccatg	180
tacttcttcc	tcagccagct	ctccctcatg	gacctcatgt	tggtctgtac	caatgtgcc	240
aagatggcag	ccaacttctt	gtctggcagg	aagtccatct	cctttgtggg	ctgtggcata	300
caaattggcc	tctttgtctg	tcttgtggga	tctgaggggc	tcttgtctgg	actcatggct	360
tatgaccgct	atgtggccat	tagccacca	cttactatc	ccatcctcat	gaatcagagg	420
gtctgtctcc	agattactgg	gagctcctgg	gcctttggga	taatcgatgg	cttgatccag	480
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tttgccttgc	gtgtcttcat	gcttctcttc	ccattctcca	tcacgtggc	ctcctatgct	660
cacattctag	ggactgtgct	gcaaatgcac	tctgctcagg	cctggaaaaa	ggccctggcc	720
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gtccttactc	ccatgctcaa	ccccctcatt	tacagcttga	ggaacagggg	gggtgatggg	900
gcactgagga	aggggctgga	ccgctgcagg	atcggcagcc	agcac		945

<210> 542

<211> 975

<212> DNA

<213> Unknown (H38g391 nucleotide)

<220>

## &lt;223&gt; Synthetic construct

&lt;400&gt; 542

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cacagccaga	ctgacctgtg	cctcttctct	gcagttatgg	tggtcttcac	agtggccctc	120
tgtgggaatg	tcctcctcat	cttcctcatc	tacctggacg	ctggacttca	cacccccatg	180
tactttctcc	tcagccagct	ctccctcatg	gacctcatgt	tggtctgtaa	cattgtgcca	240
aagatgcagc	caacttcctg	tctggcagaa	gtccatctcc	tttgtgggct	gtggcataca	300
aattggcttt	tttgtctctc	tttgtgggatc	tgaggggctc	ttgctgggac	tcattggctta	360
tgaccgctac	gtggccgtta	gccaccact	tcactatccc	atcctcatga	atcagagggt	420
ctgtctccag	attactggga	gctcctgggc	ctttgggata	atagatggag	tgattcagat	480
ggtaggcagc	atgggcttac	cttactgtgg	ctcaaggagc	gtggatcaact	ttttctgtga	540
ggtacaagct	ttattgaagc	tggcctgtgc	agacacttcc	ctttttgaca	ccctcctctt	600
tgctgtctgt	gtcttcatgc	ttctccttcc	cttctccatc	atcatggcct	cctatgcttg	660
catcctaggg	gctgtgctcc	gaatacgcct	tgctcaggcc	tggaaaaaag	ccctggccac	720
ctgctctccc	acctaacagc	tgtcacccctc	ttctatgggg	cagccatggt	catgtacctg	780
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cttactccca	tgctgaaccc	cctcatttac	agcttgagga	atggggaggt	gatgggggca	900
ctgaggaagg	ggctggaccg	ctgcaggatt	ggcagccagc	actgaacccc	agagtctggt	960
gcctgctgtg	ccct					975

&lt;210&gt; 543

&lt;211&gt; 942

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g392 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 543

atgggggatg	tgaatcagtc	ggtaggcctca	gacttcattc	tggtgggctc	cttcagtcac	60
tcaggatcac	gccagctcct	cttctccctg	gtggctgtca	tgtttgatcat	aggccttctg	120
ggcaacaccg	ttcttctctt	cttgatccgt	gtggactccc	ggctccacac	acccatgtac	180
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atattcttcc	tcacactgat	gggtgtggct	gagggcgctc	tggtggctct	catgtcttat	360
gaccgttatg	tgctgtgtg	ccagccctg	cagtatcctg	tacttatgag	acgccaggta	420
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acctcagggg	tgctgatcct	aatgctccct	ctttccctca	tcgccacctc	ctacggccac	660
gtgttgacag	ctgtttctaag	catgcgtcca	gaggaggcca	gacacaaggc	tgccaccacc	720
tgctcctcgc	acatcacggg	agtggggctc	ttttatgggt	ccgccgtgtt	catgtacatg	780
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&lt;210&gt; 544

&lt;211&gt; 350

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g393 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 544

aatattaagg	gcattgctgg	tgcccatggt	tattgaagtg	ttggatctat	tcctttatcat	60
cctatcttat	atctttatcc	cttcaggcag	ttctacaact	ctcctctcag	aggcccgtca	120
caaagcattt	gggacatgtg	tctctcacat	agggtccatc	ttagccttct	acacaccttc	180
agtcattctt	tcagtcatgc	accgtgtggc	ccgtctgtgt	gcgccacacg	tccacattct	240
cctcgccaat	ttctatctgc	tcttcccacc	catggtcaat	cccatcatct	acggcggtta	300

gaccaagcag atccgtgaca gtcttgggag tattcccgag aaaggatgtg

350

<210> 545

<211> 948

<212> DNA

<213> Unknown (H38g394 nucleotide)

<220>

<223> Synthetic construct

<400> 545

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ccccagcacc	tcttgcctcat	cttgttcctg	ctgtacctcc	tgatgttcc	gttcacattg	120
ctgggcaacc	ttctcatcat	ggccacaatc	tggattgaac	acagactcca	cacacccatg	180
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cgcctgctgg	ctgatctgct	ttccacccat	cattccatca	cctttgtggc	ttgtgccaac	300
cagatgttct	tctccttcat	gtttggettc	actcactcct	tccttctcct	ggtcatgggc	360
tatgatcgct	atgtggccat	ctgccacca	ctgcgttaca	atgtgctcat	gagccccctg	420
gactgtgccc	atcttgtggc	ctgtacctgg	gctgggtggc	cagtcattgg	gatgatgggtg	480
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tctacgtgtg	tatcccacct	cactgtgggtg	gtcacgcact	atagttttgc	ctcctttatc	780
tacctcaagc	ccaagggcct	ccattctatg	tacagtgaag	ccttgatggc	caccacctat	840
actgtcttca	cccccttct	tagcccaatc	attttcagcc	taaggaacaa	ggagctgaag	900
aatgccataa	ataaaaactt	ttacagaaaa	ttctgtcctc	caagttcc		948

<210> 546

<211> 990

<212> DNA

<213> Unknown (H38g395 nucleotide)

<220>

<223> Synthetic construct

<400> 546

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aaccaaacct	ttgtgtccaa	gtttatcttc	ctgggtcttt	cacaggactt	gcagacccag	120
atcctgctat	ttatcctttt	cctcatcatt	tatctgctga	ccgtgcttgg	aaaccagctc	180
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cttctgggtg	ggtgtacaga	gtgtgcgctg	ctggcagtga	tgctcctatga	ccgggtatgtg	420
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tccttcagggt	cctggggccag	tggggcacta	gtgtctttag	tagataccag	ctttactttc	540
catcttccct	actggggaca	gaatataatc	aatcactact	tttgtgaacc	tctgcccctc	600
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ttgaacccca	taatttatag	cttgaggaa	aaagatgtca	aaggggctct	caggaaacta	960
gttgggagaa	agtgtctctc	tcataggcag				990

<210> 547

<211> 676

<212> DNA

<213> Unknown (H38g396 nucleotide)

<220>

## &lt;223&gt; Synthetic construct

&lt;400&gt; 547

```

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cggcacgctg cgagggtaac aagctatcag gaatgcgggg tccgtggcgg gggagtgttg      120
tgggcgcggt taggccgagt ccttttagacg cccagctgca caacgtgatt gcctacagaa      180
ggacctgctt caaggatgtg gaaattccga atttcgctgt gacccttctc aattccccgt      240
cttgcatgtg tggcaccttc accaataaca taatcatgta tttccctgct gccatatttg      300
gtttttcttc catctcgggg acccttttct cttacgataa aattgttttc tccattctga      360
gggtttcatc atcaggtggg aagcataagg ccttctccac caggggggtct cacctgtcag      420
ttgtttgctg attttatgga acaggcattg gaggctacct cagttcagat gtgtcatctt      480
ccccgagaaa ggctgcagtg gcctcagtga tgtacacggt ggccatcccc atgctgaacc      540
ccttcatcta cagcctgaga aacagggata taaaagtgt cctgcggcac cgcacggcag      600
cacggtctca tctcaatate ttcttatctg ttccattcct tttgtagtgt gggttaaaaa      660
aggcagcaag gtcaaa

```

&lt;210&gt; 548

&lt;211&gt; 992

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g397 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 548

```

atgaaaatct tcaacacccc cagcaactcc agcaccttca ctggcttcat cctcctgggc      60
ttcccttgcc ccaggaggag acagatcctc ctctgtgtgc tcttactgtg tgtttacctc      120
ctgacctca tgggcaatgg ttccatcaac tgtgctgtgc actgggtcag agactccatg      180
cccccatgta catcctgctc gccaaacttct ccttctctgga gatctgttat gtcacctcta      240
cagtccecaa cgtgctggcc aacttcctct ctgacacaag atcatctcgt tctctggctg      300
cttctcccaa ttctactttt tttctctctt gggctctaca gaatgctttt tcttgggagc      360
tatggcattt gacctatacc ttgccatctg ccggcctcta cgctatccaa ccattatgac      420
cagacgtctc tgcaacattc ttgtgggcag ctgctgggta cttggtttct tgtggttcct      480
gattcctatc agtgtcattt ctcaaatac ctgtggatct aggattattg accacttccc      540
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tctgtggtca ctccccttat taatcctgtc atatacagtc tgaggaacaa ggaaatgaaa      900
catgcaatga ggaactacac tgtaatgttt tattttctag aattcatagg gctacaagag      960
atgtcaaaga tgtattctat ctctttaatt tt

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&lt;210&gt; 549

&lt;211&gt; 805

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g398 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 549

```

ttctcaagta tatatgcttg tatatatcag atctctatct caactatcta tctaatacat      60
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agaaactgta caatgtgatt gataacaatc ttcattttga aatattgcta gcatggcttc      300
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taccttatcc tcatgactga tgaaaataga gatcgaatgt ttatgggccc gctgacagcc      420
tttccctaca ccgatgccac atctcagaac atgcactatg taaattttct tattatcatt      480
ctcagtattt tgtacatccc tggaccatat acgttgatcc taagagctat gcttcagctg      540

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aaatgaagat	gacaaatcac	aatatcataa	tgatatactc	cataaagact	ctagttttta	720
actttgtcaa	ttacacctta	ctcaatatga	acttaaaacc	tatcttcagt	ttttttttta	780
tggaatgagt	attagccaaa	gctca				805

&lt;210&gt; 550

&lt;211&gt; 933

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g399 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 550

atgaaaatct	tcaacagccc	cagcaactcc	agcaccttca	ctggcttcat	cctcctgggc	60
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gccccatgt	acatcctgct	cgccaacttc	tccttcttgg	agatatgtta	tgtcacctcc	240
acagtcccca	gcatgctggc	caacttcctc	tctgacacca	agatcatctc	gttctctggc	300
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ttcctatgtg	acccagctcc	tcttctaact	ctcacttgca	aaaaaggccc	tgtgatagag	600
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atgagaaaag	ctctgaagaa	attttgggga	aca			933

&lt;210&gt; 551

&lt;211&gt; 977

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g400 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 551

acagccctgg	aattcacaaa	caattcagag	acaagcacta	tgacggaatt	tgttctcctt	60
ggctttcctg	gttgtcagga	gatgcaaagt	ttcctcttct	ccctgttctt	tgtgatctat	120
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cataccccaa	tgtatatctt	cctaggggaa	tttgccttcc	ttgaaatccg	gtaagttact	240
tcactgttac	ccaacatgct	agtcaacttc	ctctcagaga	caaaaacat	ctcttttgtt	300
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gagattatct	tctatatcct	gagctccctc	attatcattc	tcactcttct	gtacatctgt	660
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agaccaagca	aaccatt					977

&lt;210&gt; 552

&lt;211&gt; 945

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g401 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 552

atggagagcg	gaaaccaatc	aacagtgact	gaatttatct	tcaactggatt	ccctcagctt	60
caggatggta	gtctcctgta	cttcttttct	ttacttttca	tctatacttt	tattatcatt	120
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atgtatttct	tccactcact	tgaaaactca	gaggggatct	tgctgaccac	catggccatt	360
gacagatacg	ttgccatctg	caacctctct	cgctatcaaa	tgatcatgac	ccccgggctc	420
tgtgctcaac	tctctgcagg	ttcctgcctc	ttcgggtttcc	ttatcctgct	tcccgagatt	480
gtgatgattt	ccacactgcc	tttctgtggg	cccaacccaa	tccatcagat	cttctgtgac	540
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aaaaaactgt	tctgtcttca	aaaagtgttg	aacaagcctg	gaggt		945

&lt;210&gt; 553

&lt;211&gt; 921

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g402 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 553

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gtctgtgcag	tgaaattgga	caggcggtc	cacacaccca	tgatcatcct	tctgggaaac	180
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attatctttg	ggccttccct	ctccatcttg	ggatcttaca	ctctgggtcat	cagagctgtg	660
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aatcccttta	tctatagtct	tcgaaacaaa	gacatgaaag	atgctctaaa	gagagtctctg	900
gggttaacag	ttagccaaaa	c				921

&lt;210&gt; 554

&lt;211&gt; 768

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g403 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 554

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cccaagatgc	tctccatcct	catcagcagg	cagaggacca	tctccatggt	tggtgcctc	120

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gggctctgtg	ttcagctctc	tgtgggggtc	tgcactcttg	gctttcttgt	gttgctccca	300
gagattgcat	ggattttccac	actgcccttc	tgtggaccca	accaaateca	ccagatcttc	360
tgtgattttg	aacctgtgct	gcgcttgccc	tgtacagaca	cgtccatgat	tctgattgag	420
gatgtgatcc	atgctgtggc	cattgtattc	tctgtcctga	ttattgccct	ttcttatatc	480
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gttcttgctc	cctttttcaa	ccctatcatc	tatagcttta	gaaataagga	catgaagatt	720
gcaattaaaa	agcttttctg	ccctcagaag	atgggttaatt	tatctgta		768

&lt;210&gt; 555

&lt;211&gt; 960

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g404 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 555

agtctgggaa	gcatgaataa	ctcacagata	tctactgtga	cgcagtttgt	gttggtgggg	60
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&lt;210&gt; 556

&lt;211&gt; 957

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g405 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 556

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ggaaatttca	tgattttctt	tgtgttccaa	ccggaccccc	atctccataa	tcctatgtac	180
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gccctacttt tcaaccaggt aatctatagt ctgaggaaca aagatatgaa aaacgccacc 900  
aagaaaatcc tctgtttctca aaagatgttc aatgcctctg ggagctaata gagttca 957

<210> 557

<211> 951

<212> DNA

<213> Unknown (H38g406 nucleotide)

<220>

<223> Synthetic construct

<400> 557

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aaagaggcta	ttggaaggct	tttccactat	cagaagaggg	ctggttgggc	t	951

<210> 558

<211> 831

<212> DNA

<213> Unknown (H38g407 nucleotide)

<220>

<223> Synthetic construct

<400> 558

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tgtgtctaca	ctgtatatgt	actccatatt	ccttattgcc	aatccagggc	catcaatcat	420
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<210> 559

<211> 725

<212> DNA

<213> Unknown (H38g408 nucleotide)

<220>

<223> Synthetic construct

&lt;400&gt; 559

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tagaatcctt	cttcaggaga	cttatctaaa	gcatttgtgt	catgttagat	cacatcacag	720
taggg						725

&lt;210&gt; 560

&lt;211&gt; 936

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g409 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 560

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ctcacaccct	tcctcaaccc	cttcattctac	agcttgacaa	acaaggagat	caaggaggct	900
gtgaggaggc	agctaaagag	aattgggata	ttggca			936

&lt;210&gt; 561

&lt;211&gt; 635

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g410 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 561

gaattccttt	tttataatta	caatcaaaca	tcaactgatt	tcattcttatt	ggggctgttc	60
ccacaatcaa	gaattggcct	tttcgtattc	accctcattt	ttctcatttt	cctaattggct	120
ctaattggaa	atctatccat	gattcttctc	atcttttttg	acatccatct	ccacacacct	180
atgtatttcc	tacttagtca	gctctccctc	attgacctaa	attacatctc	caccattgtt	240
ccaaagatgg	tttatgattt	tctgtatgga	aacaagtcta	tctccttcac	tggatgtggg	300
attcagagtt	tcttcttctt	gacttttagca	gttgacagaag	ggctgtctct	gacatcaatg	360
gcctatgatc	gttatgtggc	catttgcttt	cctctccact	atcccatccg	tataagcaaa	420
agagtgtgtg	tgatgatgat	aacaggatct	tggatgataa	gctctatcaa	ctcttgtgct	480
cacacagtat	atgcactctg	tatcccatat	tgcaagtcca	gagccatcaa	tcattttttc	540
tgtgagggat	cctctgagag	gtacctggga	gcatgcaagc	ttggcgctgg	gccgcggtgg	600
aaacggcgty	actggtaaaa	ccctgggctg	gccca			635

<210> 562  
 <211> 789  
 <212> DNA  
 <213> Unknown (H38g411 nucleotide)

<220>  
 <223> Synthetic construct

<400> 562  
 atgttgggga attactctag cgccactgaa tttttctctt taggcttccc tggctcccaa 60  
 gaagtatgcc gtatcctatt tgcgaccttc ttctctctgt atgcagtgc agtgatggga 120  
 aacgtgggtca tcatcatcac tgtctgtgtt gataaatgtc tgcagtcctc catttatattt 180  
 ttcttggggc acctctgtgt cctggagatc ctgatcacat ccaccgctgt cccttttatg 240  
 ctctgggggt tgctgcttcc aagcaccag atcatgtctt tgacagcctg tgctgcacag 300  
 ctatatattt acctttcttt gggtaccttg gagttggcat taatgggagt gatggctgtg 360  
 gaccgttatg tggctgtgtg taaccctttg aggtacaaca tcattatgaa cagcagcacc 420  
 ttcatattgg tgataattgt gtcattgggtt ttgggggttc ttcttgaaat ctggccagtt 480  
 tatgccactt ttcagcttac ttctgcaaaa tcaagtgtgt tagatcattt ttattgtgac 540  
 cgaggacaat tgctcaagg atcctgtgag gacactcttt tcagagagtt tattcttttt 600  
 ctaatggctg ttttcattat cattgggttct ttgatcccta cgattgtctc ctacacctac 660  
 atcatctcca ccaacctcaa gattccgtca gcctctggct ggaggaaatc cttttccacc 720  
 tgtgcctccc acttcaccta tgtgtgatt ggctatggca gctgcttggt tctctacgtg 780  
 aaaccaag 789

<210> 563  
 <211> 951  
 <212> DNA  
 <213> Unknown (H38g412 nucleotide)

<220>  
 <223> Synthetic construct

<400> 563  
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 ggctatgtca ggggctggct ttttgtcctg ctgctattgg catacctgtt caccatctgt 120  
 ggtaacatgc tcatcttctc agtcatecga ctggatgcag ctctgcacac acctatgtac 180  
 cactttgtca gtgttctttc cttcttggag ttgtgggata cagctaccac tatccctaag 240  
 atgttgtcta atattctcag tgagaagaaa accatttctt ttgcaggatg cctccttcag 300  
 acctacttct tccactcctt gggagcgtct gaatgctacc ttcttacagc catggcctat 360  
 gatagatacc tggccatttg tcggcccttc cactacccta taattatgac caccacactc 420  
 tgtgccaaga tggctgctgc ttgttggact tgtggcttcc tgtgtcccat ttctgaggtc 480  
 atccttgcct cccagctccc attttgtgt tacaatgaaa tccaacacat ttctgtgac 540  
 ttccacctt tgetgagctt ggctgcaag gacacatctg ctaacattct ggtggacttt 600  
 gccattaatg ctttcataat tcttatcact ttcttctta tcatgatttc ttatgcaagg 660  
 atcattgggg ctgtgctgaa gataaaaaa gcatcaggaa gaaagaaggc cttttctacc 720  
 tgtgcctcac atcttgtgtt ggtcctcatc ttctttggga gcatcatctt catgtatgtg 780  
 cggctaaaga agagctatc cctgaccctt gaccgaacac ttgctatagt ttactccgta 840  
 ctaacaccaa tggatcaatc aattatctac agtcttcgta acaaggaaat cattaaagct 900  
 atcaagagga catcttcca gaaggagat aaagctagtc ttgctcatct t 951

<210> 564  
 <211> 945  
 <212> DNA  
 <213> Unknown (H38g413 nucleotide)

<220>  
 <223> Synthetic construct

<400> 564  
 atgcaggggc taaaccacac ctccgtgtct gaattcatcc tcgttggctt ctctgccttc 60

ccccacctcc	agctgatgct	cttctgctg	ttctgctga	tgtacctgtt	cacgctgctg	120
ggcaacctgc	tcacatggc	cactgtctgg	agcgagcgca	gcctccacat	gccccatgtac	180
ctcttctctg	gtgcccctctc	catcaccgag	atcctctaca	ccgtggccat	catccccgcgc	240
atgctggccg	acctgctgtc	caccagcgc	tccatgcct	tcctggcctg	tgccagtcag	300
atgttcttct	ccttcagctt	cggcttcacc	cactccttc	tgctcactgt	catgggctac	360
gaccgctacg	tggccatctg	ccacccccctg	cgttacaacg	tgctcatgag	cctgccccggc	420
tgcacctgcc	gggtgggctg	ctctgggct	gggtggcttg	tcctggggat	gggtgggtgacc	480
tcggccattt	tccacctcgc	cttctgtgga	cacaaggaga	tccaccattt	cttctgccac	540
gtgccacctc	tgttgaagtt	ggcctgtgga	gatgatgtgc	tggtgggtggc	caaaggcgctg	600
ggcttgggtg	gtatcacggc	cctgctgggc	tgttttctcc	tcctcctcct	ctcctatgcc	660
ttcatcgtgg	ccgccattct	gaagatccct	tctgctgaag	gtcggaaaca	ggccttctcc	720
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ctgaagccca	aagggtccca	gtctccggaa	ggagacacct	tgatgggcat	cacctacacg	840
gtcctcacac	ccttctcag	ccccatcatc	ttcagcctca	ggaacaagga	gctgaaggctc	900
gccatgaaga	agacttgctt	caccaaactc	ttccacaga	actgc		945

&lt;210&gt; 565

&lt;211&gt; 958

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g414 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 565

cacacagagc	cacggcatct	cacaggtgtc	tgagaattcc	tcctcctggg	actctcagag	60
gatccagaac	tgcagcctgt	cctcgtctgg	ctgtcccat	ccatgtatct	ggtcacagtg	120
ctgaggaacc	tgtcgtcat	cctggctgtc	agctctgact	cccacctcca	cacccccatg	180
tactttcttc	tctccaaccc	gtgctgggct	gacatcggtt	tcacttcggc	cacgggttccc	240
aagatgactg	tggacatgca	gtcacatatc	agagtcacat	cttatgagag	ctgcctgaca	300
cggatgtctt	tcttggtcct	ttttgcatgt	atagaagaca	tgctcctgac	tgtgatggcc	360
taggactgct	ttgtagccat	ctgtcgccct	ctgcactacg	cagtcacgt	gaatcctcac	420
ctctgtgtct	tcttagtttt	gggtgccttt	ttccttagcc	tggtggattc	ccagctgcac	480
agttagattg	ttacaattca	ccttcttcaa	gaatgtggaa	atctctcatt	ttgtctgtga	540
gccatctcaa	cttctcaacc	ttgcctgttc	tgacagcgtc	atcaatagca	tattcatgta	600
tttcaatagt	actatgtttg	gttttcttcc	catttcaggg	atccttttgt	cttactataa	660
aattgttccc	tccattctaa	ggatttcac	gtcagatggg	aagtataaag	ccttctccac	720
ctgtggctct	cacctggcag	ttgtttgctt	attttatgga	acaggcattg	gcattgtacct	780
gacttcagct	gtggcaccac	ccccaggaa	tggtgtgggtg	gcgtcagtga	tgtacgctgt	840
ggtcaccccc	atgctgaacc	ctttcatcta	cagcctgaga	aacagggaca	ttcaaagcgc	900
cctgtggagg	ctgcgcagca	gaacagtcga	atctcatgat	ctgttccatc	ctttttct	958

&lt;210&gt; 566

&lt;211&gt; 470

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g415 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 566

gtctccccac	tgtgggaatg	tgtgtcatga	cagcgggtctc	cccacttctt	atgctctgga	60
gactcagttt	tctgtctggt	tcacagtgtg	ggctgtctgca	cactacttct	ttcacagagt	120
ttgcggcttc	tttcagtttt	cctgttaagt	tcctgtgctg	cttcttggaa	aaaagtcac	180
agcatgaatc	tctacacacc	attttgtctt	tctaagtggt	agaatcacgt	taacaatgcc	240
ttcaacctgc	catcatggaa	aaaaagtaaa	agtgtgtgtca	ccatgttcta	agggccccgc	300
atgatcacgt	acttgaggct	tgactcctag	tataacctac	agtgggaaaa	cagttggtgc	360
tgttctacag	cattgtctct	gccttcataa	aacctcatcat	ctccagcctc	aggaacaagg	420
atgtaaaagg	ggcttcttgg	aaagtactta	gagtcaaagg	gacagctcaa		470

&lt;210&gt; 567

<211> 862  
 <212> DNA  
 <213> Unknown (H38g416 nucleotide)

<220>  
 <223> Synthetic construct

<400> 567  
 atggaaaatt acaatcaaac atcaactgat ttcattcttat tggggctggt tccaccatca 60  
 agaattgacc ttttcttctt cattctcttt gttctcattt tcctgatggc tctaattgga 120  
 aacctatcca tgattcttct catcttcttg gacacccatc tccacacacc catgtatttc 180  
 ctgcttagtc agctctccct cattgacctt aattacatct ctacgattgt tcctaagatg 240  
 gcttctgatt ttctgtatgg aaacaagtct atctccttca ttgggtgtgg gattcagagt 300  
 ttcttcttca tgacttttgc aggtgcagaa gcgctgctcc tgacatcaat ggcctatgat 360  
 cgttatgtgg ccatttgctt tcctctccac tatcccatcc gtatgagcaa aagaatgtat 420  
 gtgctgatga taacaggatc ttggatgata ggctccatca actcttgtgc tcacacagta 480  
 tatgcattcc gtatcccata ttgcaagtcc agagccatca atcatttttt ctgtgatgtt 540  
 ccagctatgt tgacattagc ctgtacagac acctgggtct atgagtacac agtgtttttg 600  
 agcagacca tctttcttgt gtttcccttc actggcattg cgtgttccca tggctggggt 660  
 ctcttctgtg tctaccgcat gcaactctgca gaaggaggaa aaaggcctat tcgacctgca 720  
 gcacccacct cactgtagta actttctact atgcaccctt acgttatacc tatctatgtc 780  
 caagatccct gtttatttct gacagaggac aaggttgggg gggggggggg acaccatcct 840  
 caccatcaatg ctcaacccca tc 862

<210> 568  
 <211> 930  
 <212> DNA  
 <213> Unknown (H38g417 nucleotide)

<220>  
 <223> Synthetic construct

<400> 568  
 atggataaag aaaacagctc aatggtgact gagtttatct tcatgggcat caccaggagc 60  
 cctcagatgg agatcatctt ctctgtgggc ttcctcatag ttacctgggt taatgtagtg 120  
 ggggaatattg gtatgattat cctgattaca acagacactc agcttcacac acccatgtat 180  
 ttttctctct gcaacctctc ctttgttgac ctgggtactc cctcagccat tgccccagg 240  
 atgctggctg acttccctaac aaatcacaaa gttatctcct tctccagctg tgccaccag 300  
 ttgtcttttt ttgtagggtt tgtggatgct gagtgcctat tcctggcagc catggcctat 360  
 ggtcgttttg tggccatttg tcgacccctc cactatagca ccttcatgtc caagcaggtc 420  
 tgcttggtct tcatgctggg ctcttacctg gctgggtctag tgagtttagt agccacact 480  
 accctcacct tcagcctgag ttactgtggg tccaatatca tcaatcattt cttctgcgaa 540  
 atcccaccac tcttggccct ctcttgcctc gacacctaca tcagtgaagt cttgctcttc 600  
 agtctgtgtg gcttcattga attcagcacc atcctcatca tcttcatctc ctataccttt 660  
 atccttgttg caatcatcag aatgcgttca gctgaaggcc gccttaaggc tttctccacc 720  
 tgccgggtctc accttactgg catcaccctc ttctatggca cagtcatgtt tatgtacctg 780  
 aggccaacat ccagctactc cctggaccaa gacaagtggg cctctgtgtt ctacacgggt 840  
 atcatcccca tgttaaatcc cttgatctac agtttgcgga acaaggatgt gaaagctgct 900  
 ttcaaaaagc taattggaaa aaaatctcaa 930

<210> 569  
 <211> 1005  
 <212> DNA  
 <213> Unknown (H38g418 nucleotide)

<220>  
 <223> Synthetic construct

<400> 569  
 tctacagacc cacagaatct aatagatgtc tctatatctc tcctcctaga acctcagagg 60  
 atccagaacg gcagctgggc cttgctgggc tgttctgtgc catgtgctctg gtcacgggtc 120

tggggaacct	gctcatcatc	ctggccgtca	gtcctgactc	ccacctccac	acccccatgt	180
actttcttct	ctccaacctc	tccttgccctg	acatcggttt	cacctccacc	acggccccca	240
agatgattgt	ggacatccga	tctcacagca	gagtcattct	ctatgcaggc	tgccctgactc	300
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gcctatgacc	agttttagtc	catctgtcac	cctctatata	attcagccgt	catgaacct	420
tgtttctgtg	gctttctagt	tttggtgact	tttttttttc	tcagtctttt	agacgcccag	480
ctgcacaact	tgattgcctt	acaaatgacc	tgcttcaagg	atgtggaaat	tcctaatttc	540
ttctgtgacc	cttctccact	cccccatctt	gcatgtttgtg	acaccttcac	caataacata	600
atcatgtatt	tccctgctgc	catatttggg	tttcttccca	tctcggggac	ccttttctct	660
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gggtacactc	gttcagatgt	gtcatcttcc	ccgagaaagg	ctgcggtggc	ctcagtgatg	840
tacacggtgg	tcacccccat	gctgaacccc	ttcatctaca	gcctgagaaa	cagggatatt	900
aaaagtgtcc	tgcggtggct	gcacggcagc	tctgtctaata	ctcaacatct	tcttatctgt	960
tgcattcctt	ttgtagtgtg	ggttaaaaaa	ggcagcaggg	tcaaa		1005

&lt;210&gt; 570

&lt;211&gt; 907

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g419 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 570

atggatcacg	tcagtcataa	ctggactcag	agttttatcc	ttgctgggtt	caccaccact	60
gggaccctac	aacctcttgc	cttcttgggg	accctatgca	tctatctcct	cacacttgca	120
gggaacattc	tcattcattgt	cctggtacag	ttagattctg	gactgttcac	gccccatgtac	180
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ctatgtcttt	cattccttag	ggatgactga	gtgctacctg	ctgggtgtca	tggcactgga	360
tagctacctt	atcatctgcc	accactcca	ctaccacgca	ctcatgagca	gacagggtaca	420
gttacgacta	gttggggcca	gttgggtggc	tggcttctca	gctgcacttg	tgccagccac	480
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accactaatg	cgggtggcat	gtgtggacac	aagctggcat	gctagggccc	atggcacagt	600
gattggtgtg	gccactggtt	gcaactttgt	gctcattttg	ggactctatg	gaggtatcct	660
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ctcccacgta	actgtgggtg	cactattcta	tgcttctgcc	ttcacagtat	atgtgggctc	780
acctgggagt	cgacctgaga	gcacagacaa	gcttggtgcc	ttggtttatg	cccttattac	840
ccctttcttc	aatcctatca	tctatagcct	tcgcaacaag	gaggtgaaga	aggctttaag	900
gagagtc						907

&lt;210&gt; 571

&lt;211&gt; 1006

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g420 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 571

ccaacgaaga	gagagaacca	cacagtgata	agggagtgtt	ttttccaggg	tttctccagc	60
tttcatgaac	acaagcttac	cctctttgtg	gtattttctta	ccttgtgtct	tttaacctg	120
gctggcaatg	tcataattgt	gacaattatc	agcattgatc	gtcaccttca	cacccccatg	180
tacttctttg	ttagtatgct	ttccacttca	gagactgtct	acacattagt	cattgtacca	240
cggatgctct	ccagtctctt	aagtctaagc	caacctatct	ctttgggtgg	ctgtgccacc	300
cagatgtttt	ttttattacc	ttggccatca	acaactgctt	tctgctcaca	gcaatggggg	360
atgatcgcta	tgtggccatc	tgtaacctt	tgagggtacat	gatcatcatg	aacaagaaag	420
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tttcatctgt	gttcaggctg	cctttttgtg	ataaacagggt	ggccattat	ttctgtgata	540
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ttgttagttc	cctgggttatt	gtgggtgccgc	tgggttttgt	cttcatctcc	tacatccctca	660
tcattctctac	catcctcaag	gtcacctctc	ctgagggccg	gaaaaaggct	tttgcaactt	720
gtgcctccca	cctcactgtg	gttatcatcc	actatggctg	tgccctccatt	gcctacctca	780
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ttactccact	acttaatcct	gttgtgtaca	ctttgaggaa	caaggaggtc	aagaatgccc	900
ttcaccgtgc	tattggcaaa	aaaccttttg	cctagaatct	tcattcagttt	gacatatagt	960
cagtcatagt	ctgggttattt	ttttaagctc	gagaaaattg	aatcct		1006

&lt;210&gt; 572

&lt;211&gt; 945

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g421 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 572

atgtccataa	ccaaagcctg	gaacagctca	tcagtgacca	tgttcatcct	cctgggattc	60
acagaccatc	cagaactcca	ggccctctct	tttgtgacct	tcttgggcat	ctatcttacc	120
accctggcct	ggaacctggc	cctcattttt	ctgatcagag	gtgacaccca	tctgcacaca	180
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tattcattgg	tgatcccat	gctgaacct	ctcatttaca	gtttgaggaa	caaagagatc	900
aaggatgccc	tgtggaaggt	gttggaaggg	aagaaagtgt	tttct		945

&lt;210&gt; 573

&lt;211&gt; 949

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g422 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 573

atgccttgaa	agatggagtc	aataaacaca	aacttcactg	tcactgaatt	tgtgttctctg	60
gggttgtcct	ctgaaccaa	gatacagctt	attcttttta	ttatgttctt	gttctattta	120
tcaacggtgg	ctggaaatgt	tataatcacc	actattatct	agatggaacc	tctcctcaa	180
accccatgt	acttcttctc	caactaattta	tcctttcttg	acatttgcta	cacatccacc	240
aatgtccccc	aaatgctgtc	caacatggcg	gggaaaaaga	acaccatctc	attctccagc	300
tgcgctactc	agatgtactt	ctccctctcc	tttggaatga	ttgtgtcctc	cttgggtgtca	360
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aaaacacctg	cattcaactg	gcagttattt	cttgggtccag	tagcttctctg	agttccatgg	480
ttatcaatgt	tctcacgttg	agtttgccct	actgtgggcc	taatatacctg	aatcactttt	540
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ttgtttttat	cttcagtatc	atcattgtct	tcaccccttt	cctcctcatt	gttgtttcct	660
atgtccggat	ccttcaatct	gttctcagga	tgccggtcagc	ctctgggccc	tatcaggcat	720
tatccacctg	tacctcccat	ttgacagtgg	taaccttatt	tatgggactg	ccatcttcat	780
ggacatgaga	ccacagtcca	ggtcctcctg	ggctggcggc	aagatcattg	cggttttcta	840
cacgggtggc	acacctatgc	ttaacccctt	gatttacagc	ctgaggaacc	aagatgtgaa	900
aggagctcga	aggagagcta	ttgcaaagca	gaggatgtga	cagctgtta		949

&lt;210&gt; 574

<211> 1022  
 <212> DNA  
 <213> Unknown (H38g423 nucleotide)

<220>  
 <223> Synthetic construct

<400> 574

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tctggcaatg	tgattatcat	gaccattatt	cgcttgacc	atcatcttca	caccéccatg	180
tacttcttcc	tgtgcatgct	atccatctct	gagacctgct	acactgtggc	catcattccc	240
catatgcttt	ctggtctctt	gaatcctcat	cagcccattg	ccacccaaag	ctgtgccact	300
cagctcttct	tctatctcac	ctttggcatc	aacaactgct	tcctgctcac	agtcattggga	360
tatgaccgct	atgtggccat	ctgcaacccc	ctaagggtatt	cagtcacatc	gggtaagagg	420
gcctgtatcc	aactggcctc	tggatcactg	gggattggcc	ttggcatggc	cattgtccaa	480
gtaacatctg	tgtttggcct	gccattctgt	gatgcctttg	tcattctcca	cttcttctgt	540
gatgtgagac	acctgctgaa	gctggcctgc	acagacacca	ctgtcaatga	gataatcaac	600
tttgttgtca	gcgtctgtgt	ccttgttcta	cctatgggcc	tggtctttat	ctcctatgtc	660
ctcatcatct	ccaccattct	taagattgcc	tcagctgaag	gtcagaagaa	ggcctttgcc	720
acctgcgcct	cccacctcac	agtggctcatc	atccactatg	gctgtgcctc	catcatctac	780
ctgaagccta	agtcccagag	ttccctggga	caggacagac	tcattctcagt	gacctacact	840
catcactccc	ctactgaacc	ctgttggtgta	cagcctgaag	aacaaggagg	tcaaagatgc	900
tctgcacaga	gccgtggggc	aaaaaactct	gtctccttaa	tgaagagagg	ttgtgaaggc	960
ttttcctttg	cgtttataaa	tatgtactaa	tttttaatgc	tctttcaata	atgcccttat	1020
gt						1022

<210> 575  
 <211> 938  
 <212> DNA  
 <213> Unknown (H38g424 nucleotide)

<220>  
 <223> Synthetic construct

<400> 575

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atagggttcc	caggcattca	tgagtggcag	cactggctct	ccctgccctt	agctcttggt	120
gccaatctcc	tcatacata	caccattcaa	catgagacca	tgctacatga	acccatgtac	180
catttgctgg	gcataattag	agtgggtggc	attggcctgg	ccaccaccat	catgcccagg	240
atcctggcca	tcttctgggt	tgatgccaa	gccatcagcc	tccttgagtg	ttttgctcag	300
atctatgcca	tccactcttt	catgtgcatg	gagtcaggca	tcttctctctg	catggcagtg	360
gatagatata	tggccatttg	ttatcccctt	cagtacactt	ccatagttac	tgaagctttt	420
gtcatcaaag	ccacactgtc	agtagtgctc	aggaatggcc	tgttgaccat	cccagtgcca	480
gtattggctg	cccagcgaca	ctactgtctc	aggaatgaga	ttgatcagtg	cctctgctct	540
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gccttggtct	gggttggtgt	tgggagtgac	atgggtctgg	tctttgcttc	ctattctttg	660
attattcact	cagtgtctgaa	gctgaactct	gctaaagcaa	catctaaggc	cctgaatacc	720
tgcagctccc	accttatact	cattctcttt	ttctacacag	ctattattgt	agtatctgtc	780
accacctggc	aggaagaagg	gctccccgca	tcctgtttct	cctcaatgtg	ctgcatattg	840
tcacccctc	agcccttaac	cccatagtat	atgcccttag	gacctaggag	ctgagagcgg	900
gcttccagaa	gctgcttggt	ttgggcgagt	atgtgtcc			938

<210> 576  
 <211> 945  
 <212> DNA  
 <213> Unknown (H38g425 nucleotide)

<220>  
 <223> Synthetic construct

&lt;400&gt; 576

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ccagtgctag	agaagatcct	gtttggggta	ttccttgcca	tctacctaat	cacactggca	120
ggcaacctgt	gcatgatcct	gctgatcagg	accaattccc	acctgcaaac	acccatgtat	180
ttcttccttg	gccacctctc	ctttgtagac	atttgctatt	cttccaatgt	tactccaaat	240
atgctgcaca	atttcctctc	agaacagaag	accatctcct	acgctggatg	cttcacacag	300
tgtcttctct	tcategccct	ggatgatcact	gagttttaca	tccttgcttc	aatggcattg	360
gategctatg	tagccatttg	cagccctttg	cattacagtt	ccaggatgtc	caagaacatc	420
tgtgtctgtc	tggtcactat	cccttacatg	tatgggttcc	ttagtgggtt	ctctcagtca	480
ctgctaacct	ttcactttatc	cttctgtggc	tcccttgaaa	tcaatcattt	ctactgcgt	540
gacccctctc	ttatcatgct	ggcctgctct	gacacccgtg	tcaaaaagat	ggcaatgttt	600
gtagttgcag	gctttaatct	ctcaagctct	ctcttcatca	ttcttctgtc	ctatcttttc	660
atTTTTgcag	cgatcttcag	gatccgttct	gctgaaggca	ggcaciaaagc	cttttctacg	720
tgtgcttccc	acctgacaat	agtcactttg	ttttatggaa	ccctcttctg	catgtacgta	780
aggcctccat	cagagaagtc	tgtagaggag	tccaaaataa	ctgcagtctt	ttatactttt	840
ttgagcccaa	tgtgaaccc	attgatctat	agcctacgga	acacagatgt	aatccttgcc	900
atgcaacaaa	tgattagggg	aaaatccttt	cataaaattg	cagtt		945

&lt;210&gt; 577

&lt;211&gt; 771

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g426 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 577

atgtttctac	tggtggccat	cctggcagcc	acagacctgg	gcttagccac	atctatagcc	60
ccagggttgc	tggtgtgtct	gtggcttggg	ccccgatctg	tgccatatgc	tgtgtgcctg	120
gtccagatgt	tctttgtaca	tgcactgact	gccatggaat	cagggtgtgt	tttggccatg	180
gcctgtgatc	gtgtgcggc	aatagggcgt	ccactgcact	accctgtcct	ggtcacccaa	240
gcctgtgtgg	gttatgcagc	cttggccctg	gcactgaaag	ctgtggctat	tgtgtacct	300
ttccactgc	tggtggcaaa	gtttgagcac	ttccaagcca	agaccatagg	ccatacctat	360
tgtgcacaca	tggcagtgg	agaactgggtg	gtgggtaaca	cacaggccac	caacttatat	420
ggtctggcac	tttactggc	catctcagg	atggatattc	tggttatcac	tggctcctat	480
ggactcattg	cccatgctgt	gctgcagcta	cctaccggg	aggcccatgc	caaggccttt	540
ggtacatgta	gttctcacat	ctgtgtcatt	ctggccttct	acatacctgg	tctcttctcc	600
tacctcgcac	accgcttttg	tcatacact	gtcccaaagc	ctgtgcacat	ccttctctcc	660
aacatctact	tgtgtgtgcc	acctgccctc	aacccctca	tctatggggc	cgcaccaag	720
cagatcagag	accgactcct	ggaaaccttc	acattcagaa	aaagcccgtt	g	771

&lt;210&gt; 578

&lt;211&gt; 1074

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g427 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 578

gtgagcatga	gcttcttaat	aagaagtgtat	tcaacactac	acactccaat	gtgcttgttc	60
ctcagtcate	tctcctttgt	agatctctat	tatgccacca	atgccactcc	tccgatgctg	120
gttaactttt	tttttccaag	agaaaaaccg	tttcttttat	tggttgcttt	atccaatttc	180
accttttcat	tgcactgggtg	atcacagatt	atcatatgct	cacagtgtatg	gtgtatgacc	240
actacatggc	catctgcaag	cctttgttat	atggaagcaa	aatgtccagg	tgtgtctgcc	300
tctgtctcac	tgtgtctccc	tatatattatg	gctctgcaaa	tggtctggta	caggctcatcc	360
tgtatgctttg	tctgttcttc	tgtgaaccca	atgagatcaa	ccactttttt	ttttttggag	420
aaaatgcatt	atatgcacat	ttaattccac	tataaatttt	tgaatggacg	gttggagagg	480
aagggagaaa	tacatatata	accaccaga	aagtatatata	aatgggagaa		540
aggaacctgt	tgatccaagt	ttccatattc	ttattatggc	atataaggtc	atgattattt	600
tctcagtatg	aagcatctcc	cagggtctgac	tctgatgtaa	aattggagat	caaccacttt	660

tattatgcag	aaccacccct	cttagtcctc	gcctgcttgg	atacttatgt	caaagaaact	720
gccatgttca	tgggtggctgg	ttccaacctc	atctgccttc	tcactatcat	ctttatttcc	780
tacactttca	tcttcacaga	cattctgcac	atctgcactg	ctgagggaag	gtacaatgcc	840
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atgtgcctga	ggcccccttc	tgaggcatct	gtagaacagg	ggaaaattgt	agctgctttt	960
tatatctttg	tgagtectac	gttaaaccac	ttgatctacc	gtctgaggaa	taaaaatgtt	1020
aaaagaacaa	taagggaagt	tatccaaaag	aaactgtttg	ctaagtaagg	taga	1074

&lt;210&gt; 579

&lt;211&gt; 937

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g428 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 579

atgtttggtg	ctaattctcac	caccttccat	cccactctat	tcattctcct	tggcatccca	60
ggactggagc	aataccacat	ctggctttcc	attcctttct	accttatgta	catcactgca	120
gtcttgggaa	atggagccct	catcctagtt	gtcctcagtg	aacacaccct	ccatgtcttc	180
ctatccatgc	tggctggcac	tgatatectg	ctatccacca	ccactgtgcc	taaggccttg	240
gcgatcttct	gggtccacgc	tggggagata	gcctttgatg	cctgcattac	tcagatgttt	300
ttcattcatg	ttgcctttgt	ggctgagtca	ggaatcctgc	tggccatggc	atttgacagt	360
tatgtagcca	ttgtactcc	cttgagatac	actaccatct	taacttctat	ggtaaattgga	420
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ttcccccatg	cttaacccca	ttatctacgg	agagaagacc	aagcaaatca	gggacagtat	900
ggctcatatg	ttatctgtgg	tgggggaagtc	ttgagac			937

&lt;210&gt; 580

&lt;211&gt; 941

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g429 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 580

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ggactgacta	gccagccaga	gctgcagcct	atgctctttg	tggatttcc	cctgatttac	120
ctcatcaccc	tgactgggaa	atttgggatg	attttcctaa	tcagattcac	tcctcagctc	180
caaaccacaca	tgtatttttt	ccttactcat	ttagcatgtg	tggatatttt	ttactccact	240
aatgtctctc	cacagagctt	gttaattttct	tatctgagaa	gaagaccatt	tcctacgctg	300
ggtgtctggc	ccagtgtttt	gtctttgtga	ctctgtcctc	tactgagtat	tacatgcttg	360
gtgccatggc	ctatgactgc	tacatggcaa	tctgcaatcc	cctacattac	agcagcaaaa	420
tgtccagagc	agttttgcac	tgcctgggtga	ctttccccta	cttctggggg	tctatggtgg	480
gcacgatgca	agtaatactg	acctctcgtt	tgtccttttt	tggacceaac	accatcaacc	540
attcttactg	tactgaccca	ccccctctaa	tgttgacatc	ttctgacact	tacataaaac	600
aaactgcctt	gtttgtgtga	gcagggatta	acctcacagt	ttccctgctc	atcattctca	660
tctcctacat	tttcattttc	atcaccatta	tgaggatccg	ttccagtga	ggcgagctca	720
aagccttctc	cacctgtggc	tcccacctga	cagctgtcac	tatgttctat	gggtccctat	780
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tgttttgtat	ttttgtgagt	cccatgctga	acccgtttat	ctaccgcctg	agaaacaagg	900
atgtgaaaca	ggccttgaaa	agagtgttta	tgagaaacct	t		941

&lt;210&gt; 581

<211> 958  
 <212> DNA  
 <213> Unknown (H38g430 nucleotide)

<220>  
 <223> Synthetic construct

<400> 581  
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 atctatatgt tcacggttgt tggaaatctt ggcatgattc tattaatcaa gattgactca 180  
 catctccata ctccaatgta ctttttcttc agtaacttgt gccttgttga cttctgttat 240  
 tcttctgtca ttgcccctaa tatgctgata aatttctggg tggagaacct agtcatttca 300  
 tttaatgaat gtgcccactca attcttcttt tttggctcct ttgctggcat tgaggggttt 360  
 ctgttggctg tcattggccta tgactgttat gtggccatct gcaagcctct gctttatata 420  
 gtccctgatg caccacacct cagtgccttc ctggtgttag ccacatatct tttgggcttt 480  
 gtaaatgctg ccattcacac tggcttcacc ttccagctgt cattctgcca ctccaatata 540  
 attaactatt tttttgtga tattccacct ctctgaaac tcttgttctg atacacacat 600  
 caatgagggt gtcatTTTTT cctttgccag ttttaataaa ttgagctgtc tcctactgat 660  
 tcttgtttcc tgtctctaca tccttgcctg catcttgaag atccactctg cagaagggag 720  
 gcacaaggcc ttctccacct gtgcttccca cttggcggtg gtcactatct tctttgggac 780  
 aatcctgttc atgtatctct gcgtccagc tccagctact caatggatca agacaaagtg 840  
 gtgtctgtct tacacagtag tcatcccat gttgaatcct ttcactata gtttgagaaa 900  
 caaggaagtc aaagcttctt taagtaaaat gtttaaaaaca gtctcttata tctctact 958

<210> 582  
 <211> 897  
 <212> DNA  
 <213> Unknown (H38g431 nucleotide)

<220>  
 <223> Synthetic construct

<400> 582  
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 ctacatgaac ccatgtacca tttgctgggc atattagcag tgggtggacat tggcctggcc 180  
 accaccatca tgcccagat cctggccatc ttctggtttg atgccaaggc cattagctc 240  
 cccatgtgtt ttgctcagat ctatgccatc cactgcttct tctgcataga gtcaggcatc 300  
 tttctctgca tggcagtaga cagatacata gccatctgtc gccctcttca gtacccctcc 360  
 atagtcacta aagcttttgt cttcaaagcc acagggttca tcatgctcag gaatggcctg 420  
 ttgaccatcc cagtgcctat actggctgcc cagagacact actgttccag gaatgaaatc 480  
 gagcactgcc tctgctctaa cttgggggtt atcagcctgg cttgtgatga catcactgtg 540  
 aacaaatttt accaactgat gctagcatgg gtcttgggtg ggagtgatat ggctctggta 600  
 ttttcttctt atgtgtaat ccttcaactc gtgctgaggc tgaactcagc agaagcaatg 660  
 tccaaggctc tgagcacttg tagtccccac ctcatctca tcctcttcca cacaggatc 720  
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 aatgtgctgc acaatgtcat cccctctgca ctcaacccc tggcctgtgc actcaggatg 840  
 cacaaactca gactgggctt tcagagactg cttggactgg gtcaggacgt gtccaag 897

<210> 583  
 <211> 951  
 <212> DNA  
 <213> Unknown (H38g432 nucleotide)

<220>  
 <223> Synthetic construct

<400> 583  
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 ctcttaggac tttccgacaa tccagatcta caaggagtcc tctttgcatt gtttctgttg 120

atctatatgg	caaacatggt	gggcaatttg	gggatgattg	tattgattaa	gattgatctc	180
tgtctccaca	cccccatgta	tttctttctc	agtagcctct	cttttgtaga	tgccctcttac	240
tcttcttccg	tcactcccaa	gatgctgggt	aacctcatgg	ctgagaataa	ggccatttct	300
tttcatggat	gtgctgcccc	gttctacttc	tttggtcct	tcctggggac	tgagtgcctc	360
ctgttgccca	tgatggcata	tgaccgctat	gcagccattt	ggaaccccc	gctctaccca	420
gttctcgtgt	ctgggagaat	ttgctttttg	ctaatagcta	cctccttctt	agcagggtgt	480
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gtcctcattt	cctacctgtg	tatcttcatt	gccgtcttga	agatgccttc	gttagagggc	720
aggcacaag	ccttctccac	ctgtgcctct	tacctcatgg	ctgtcaccat	attctttgga	780
acaatcctct	tcattgtactt	gcgccttaca	tctagctact	caatggagca	agacaagggt	840
gtctctgtct	tttatacagt	aataatccct	gtgctaaatc	ccctcatcta	tagtttaaaa	900
aataaggatg	taaaaaaggc	cctaaagaag	atcttatgga	aacacatctt	g	951

&lt;210&gt; 584

&lt;211&gt; 951

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g433 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 584

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gggttgagg	cttatcacat	ttggctgtca	atacctcttt	gcctcattta	catcactgca	120
gtcctgggaa	acagcatcct	gatagtgggt	attgtcatgg	aacgtaacct	tcatgtgccc	180
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cccaaggccc	tagccatctt	ttggcttcaa	gcacataaca	ttgcttttga	tgccctgtgtc	300
acccaaggct	tctttgtcca	tatgatgttt	gtgggggagt	cagctatcct	gttagccatg	360
gcctttgatc	gctttgtggc	catttgtgcc	ccactgagat	atacaacagt	gctaacatgg	420
cctgtttgtg	ggaggattgc	tctggccgtc	atcacccgaa	gcttctgcat	catcttccca	480
gtcatattct	tgctgaagcg	gctgcccttc	tgccctaacca	acattgttcc	tcactcctac	540
tgtgagcata	ttggagtggc	tcgtttagcc	tgtgctgaca	tcactgttaa	catttgggat	600
ggcttctcag	tgcccatgtg	catggtcac	ttggatgtta	tcctcatcgc	tgtgtcttac	660
tactgatcc	tccgagcagt	gtttcgtttg	ccctcccagg	atgctcggca	caaggccctc	720
agcaettgtg	gctcccacct	ctgtgtcatc	cttatgtttt	atgttccatc	cttctttacc	780
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ctttatgtgg	cagtgccacc	aatgctgaac	ccattgtct	atggtgtgaa	gactaagcag	900
atacgtgagg	gtgtagccca	ccggttcttt	gacatcaaga	cttgggtgctg	t	951

&lt;210&gt; 585

&lt;211&gt; 915

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g434 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 585

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ggaatgcagc	tgggcctctt	cgtgggtgtt	ctgggcgtgt	actctctcac	tgtggtagga	120
aatagcacc	tcactgtgtt	gatctgtaat	gactctgcc	tccacacacc	catgtatttt	180
gtcgtctggaa	atctgtcgtt	tctggatctc	tggattctct	ctgtctacac	cccaaagatc	240
ctagtgcct	gcattctctga	agacaaaagc	atctcctttg	ctggctgcct	gtgtcagttc	300
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cgctacgtgg	ccatctccaa	gcccctgctt	tatgccagg	ccatgtccat	aaagctgtgt	420
gcattgctgg	tagcagtctc	atattgtgg	ggctttatta	actcttcaat	catcaccaag	480
aaaacgtttt	cctttaactt	ctgccgtgaa	aacatcattg	atgacttttt	ctgtgatttg	540
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atcaccagt	tcttgaggat	ctcctcctcc	aagggctacc	tcaaagcctt	ctccacatgc	720
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cccagatcta	gctattcttt	tgatatggac	aaaatagttt	ctacatttta	cactgtggta	840
ttccccatgt	tgaatctcat	gatctacagc	ctaaggaata	aggatgtgaa	agaggctctg	900
aaaaaacttc	tccca					915

&lt;210&gt; 586

&lt;211&gt; 942

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g435 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 586

atgcttccct	ctaatatcac	ctcaacacat	ccagctgtct	ttttgttgg	aggaattcct	60
ggtttggaa	acctgcatgc	ctggatctcc	atccccctt	gctttgctta	tactctggcc	120
ctgctaggca	actgtacct	tctcttcatt	atccgggctg	atgcagccct	ccatgaaccc	180
atgtacctct	ttctggccat	gttggcaacc	attgacttgg	ttctttcttc	tacaacgctg	240
cccaaaatgc	ttgccatatt	ctgggttcagg	gatcaggaga	tcaacttctt	tgctgtctg	300
gtccagatgt	tcttccttca	ctccttctcc	atcatggagt	cagcagtgt	gctggccatg	360
gcctttgacc	gctatgtggc	catctgcaag	ccattgcact	acacgacgg	cctgactggg	420
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gggacatgtg	tgtctcacat	aggtgccatc	ctgtccacct	acactccagt	agtcactctc	780
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ttctatctcc	ttttcccacc	catggccaat	cctatcatat	atggagtcaa	gaccaagcag	900
attcgtgagt	atgtgtctcag	tctattccag	agaaagaaca	tg		942

&lt;210&gt; 587

&lt;211&gt; 937

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g436 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 587

atgttaaaga	aaaaccatac	agccgtgact	gagtttgttc	tcctgggact	gacagatcgg	60
gctgagctgc	agtccttct	ttttgtggta	tttctagtca	tctaccttat	cacagtaatc	120
ggcaatgtga	gcatgatctt	gttaatcaga	agtgaactga	cactacacac	tccaatgtac	180
ttcttctctca	gtcacctctc	ctttgtagat	ctctgttata	ccaccaatgt	tactcctcag	240
atgctgggtta	actttttatc	caagagaaaa	accatttctc	tcctcggctg	ctttatccaa	300
tttcaactttt	tcattgcact	ggtgattaca	gattattata	tgctcacagt	gatggcttat	360
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tgctctgtgc	tcgctgtctg	tccttatatt	tatggctttg	caaatggctc	aagcacagac	480
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ggtggtggct	ggttccaacc	tcatttgtct	tctcaccgtc	atcctcattt	cctacacttt	660
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ctgcgggtct	catgtgaccg	ctgtcactgt	cttctatggg	acactgttct	gcatgtacct	780
gagggccct	tctgagacat	ctatacaaca	ggggaaaatt	gtagctgttt	tttatatctt	840
tgtgagtccg	atgttaaacc	cattgatcta	cagcctgagg	aataaagacg	ttaaaagaag	900
tataaggaaa	gttattcaaa	agaaactggt	tgctaag			937

&lt;210&gt; 588

&lt;211&gt; 942

&lt;212&gt; DNA

<213> Unknown (H38g437 nucleotide)

<220>

<223> Synthetic construct

<400> 588

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ggcctggaac	acctgcacat	ctggatctcc	atccctttct	gcttagcata	tacactggcc	120
ctgcttgga	actgcactct	ccttctcatc	atccaggctg	atgcagccct	ccatgaaccc	180
atgtacctct	ttctggccat	gttggcagcc	atcgacctgg	tcctttcctc	ctcagcactg	240
cccaaaatgc	ttgccatatt	ctggttcagg	gatcgggaga	taaacttctt	tgctgtctg	300
gccagatgt	tcttcttca	ctccttctcc	atcatggagt	cagcagtgt	gctggccatg	360
gcctttgacc	gctatgtggc	tatctgcaag	ccactgcact	acaccaaggt	cctgactggg	420
tcctcatca	ccaagattgg	catggctgct	gtggcccggg	ctgtgacact	aatgactcca	480
ctccccttcc	tgctgagatg	tttccactac	tgccgaggcc	cagtgatcgc	tcactgctac	540
tgtgaacaca	tggctgtggt	gaggctggcg	tgtggggaca	ctagcttcaa	caatatctat	600
ggcatcgctg	tggccatggt	tattgtgggt	ttggacctgc	tccttggtat	cctgtcttat	660
atctttatc	ttcaggcagt	tctactgctt	gcctctcagg	aggcccgtca	caaggcattt	720
gggacatg	tcttccatat	aggtgccat	ttagccttct	acacaactgt	ggtcatctct	780
tcagtcatgc	accgtgtagc	ccgccatgct	gcccctcatg	tccacatcct	ccttgccaat	840
ttctatctgc	tcttcccacc	catggtcaat	cccataatct	atggtgtcaa	gaccaagcaa	900
atccgtgaga	gcattctggg	agtattccca	agaaaggata	tg		942

<210> 589

<211> 936

<212> DNA

<213> Unknown (H38g438 nucleotide)

<220>

<223> Synthetic construct

<400> 589

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ggcctggagc	acctgcacat	ctggatctcc	atcccccttct	cagcatatac	actggccctg	120
cttggaact	gcaccctcct	tctcatcatc	caggctgatg	cagccctcca	tgagcccata	180
tacctcttct	tggccatggt	ggcagccatc	gacctggtcc	tttctctctc	agcattgccc	240
aaaatgcttg	ccatattctg	gttcagggat	cgggagatca	acttttttgc	ctgtctgggtc	300
cagatgttct	tccttcactc	cttctccatc	atggagtcag	cagtgtctgt	ggccatggcc	360
tttgaccgt	atgtggccat	ctgcaagcca	ctgcactaca	ccacggtcct	gactgggtcc	420
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gaacacatgg	ctgtgggtcag	gctggctgtg	ggaacactag	cttcaacaat	atctatggca	600
ttgtgtggc	catgtttatt	ggagtgttgg	atctattctt	tatcatccta	tcttatatct	660
ttatccttca	ggcagttcta	caactctcct	ctcaggagge	ccgctacaaa	gcatttgggga	720
catgtgtctc	tcacataggt	gccatcttag	ccttctacac	accttcagtc	atctcttcag	780
tcatgcaccg	tgtggcccgc	tgtgctgcgc	cacacgtcca	cattctctctc	gccaatttct	840
atctgctctt	cccacccatg	gtcaatccca	tcactacagg	cgttaagacc	aagcagatcc	900
gtgacagtct	tgggagtatt	cccagagaaag	gatgtg			936

<210> 590

<211> 955

<212> DNA

<213> Unknown (H38g439 nucleotide)

<220>

<223> Synthetic construct

<400> 590

atgacaaccc	acaactccac	tggtagcagc	cactcactct	tcattctgct	gagcattcct	60
ggcttagaag	accagcacac	atggatgtct	ctcccccttct	ttatttctta	ccttggtgct	120
ttccttgga	acagcctcat	catcttcatc	atcatcactg	aatgcagcct	ccacgaaccc	180

atgtacac	ttctctg	cat	gctggct	gtg	gctgac	ctta	tcctgt	ctac	taccact	gtg	240	
cccaag	gccc	tagccat	att	ttggtt	ctat	gctggag	caa	tatccct	ttg	tggtgt	gtt	300
acccaa	atct	tctttat	cca	tgctac	cttc	atcgagg	aat	caggaat	tct	gttggc	gatg	360
gcaatt	gacc	gctatgt	ggc	catctgt	gat	ccactgc	act	ataccac	agt	gctcag	tcgt	420
gcaaaa	atca	caaagatt	gg	cttggc	gtg	gtcctga	gaa	gcttct	gtgt	gatcat	gcca	480
gatgtg	tttc	tggtaa	agcg	gctgc	cttc	tgccatag	ca	atctg	ctgcc	acatac	ctac	540
tgtgag	caca	tggctgt	ttgc	caagtt	tgct	tgtgctg	ata	ttcatg	tcaa	tgtttg	ggat	600
ggcttg	tcctg	tcctt	ctcta	tactgt	tagtg	ctagatg	ccct	tgcttat	ctt	agtgtc	ctaa	660
agcttc	catcc	tgatata	cagg	cttccac	ctc	ccctcccca	aa	ggagctc	ggc	aaaagg	ctct	720
gggcac	atgt	ggctccc	acc	tcagagt	cat	ttccatg	ttc	tacttg	ccctg	gtattt	tttac	780
cataatt	acc	cagcggt	tttg	ggcacc	atgt	tcctctc	cat	acacac	atcc	tgctgg	gttaa	840
tgtctg	gggtg	ttggctc	ctc	ccatg	ctgaa	ccccatc	att	tatggg	atca	acaccag	gca	900
gattca	agag	tgtgtg	ctca	gtctttt	gtc	ctcacag	agg	aatgat	gct	agatt		955

&lt;210&gt; 591

&lt;211&gt; 939

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g440 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 591

atgaatt	ggg	taa	atgac	ag	catcata	cag	gagttt	atctc	tgctgg	gttt	ctcagat	cga	60
ccttgg	ctgg	agttt	ccact	cctt	gtgg	tc	ttcttg	atctt	cttac	actgt	gaccat	cttt	120
ggcaat	ctga	ccattat	tct	agtgt	ca	gc	ctggac	acca	aactt	catac	ccccat	gtat	180
tttttt	ctta	ccaat	ctatc	actc	ctgg	at	ctttgt	taca	ccacat	gtac	agtc	ccaca	240
atgcta	gttaa	at	ttatg	cag	catcagg	aaa	gtaat	catgt	atcgt	ggctg	tgtag	cccag	300
cttttc	catat	ttctg	gcctt	ggggg	ctact		gaatat	cttc	tcctg	gccgt	catgtc	cttt	360
gatagg	tttg	tagctat	tttg	tcggc	ctctc		cattact	cag	ttatc	atgca	ccagag	actc	420
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caaccac	ctt	cgccc	agctc	caagg	accaa		ggaa	agatgg	tttct	ctctt	ctatg	gaatc	840
attgcac	ccca	tgctga	aatcc	cttat	atat		acactt	tagga	aca	aggagg	gt	aaagg	900
tttaaa	aggt	tggtt	gcaag	agtctt	ctta		atca	agaaa					939

&lt;210&gt; 592

&lt;211&gt; 997

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g441 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 592

atggaaa	aat	ccaat	gtcag	ctcagt	gtat	ggtttt	atctc	tggtgg	gttt	ctctgat	cg	60
cccaag	ctgg	agatg	gtgct	ctttac	agta	aatttt	atctc	tgtatt	cagt	ggctgt	gctg	120
ggaaat	tcaa	ccata	atcct	tgtgtg	tata	ttagact	ctc	aactt	catac	cccaat	gtac	180
ttcttt	ctgg	caa	atctttc	ctttct	tagat	ctctg	cttca	gtact	agttg	catccc	acaa	240
atgctg	gtaa	acctc	tgggg	ccctg	acaag	actatt	agct	gtgct	ggctg	tgtt	gtccag	300
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gacag	ctatg	ctgcag	ctg	caaacc	gttg	cgctat	ctgg	tcatt	atgca	cctcc	agctg	420
tgtct	taggac	tgatg	gctgc	agcct	ggggg	agtgg	actgg	tcaat	gccgt	tgtcat	gtca	480
ccacta	aaca	tgacc	ctctc	caga	agtggc	cgccg	ccgag	tta	accattt	cctct	gtgaa	540
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ctttt	gccgt	tctcat	gtc	ctact	gccc	tcact	cttat	tctt	gtctcc	tacgg	ctaca	660
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gtagctctca cctcacagt gtctccctgt tttatgggag catcatctat atgtatatgc	780
agccaggaaa cagttcttcc caagaccaag gcaagtttct cactctcttc tacaacctgg	840
tgactcctat gttgaatctg ctcatctata ctttaaggaa taaggagggt aaaggagcac	900
tgaagaaggt tttggggagg caataatgaa ctggagaaat atgataagtt gtgaagtctt	960
aggcaaaata tcttttccaa atacatttat tttgtgc	997

&lt;210&gt; 593

&lt;211&gt; 950

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g442 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 593

caagtagttc atacaggctt ttctccctag ctatacgtct tcacctgct gggaaatggg	60
gcacccctgg gctcatctgg ctggactcca gactgcacac ccccatgtac ttctttctct	120
cacacctggc catcattgat atttcgtatg cttccaacaa tgtccccaag atgctgacaa	180
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tatacatggc ttttgtcac actgagtgtc tcactcttgg aatgatgtcc tacgatcggt	300
acatggctgt ctgccacct ctgcaatatt ctgtcatcat gagatgggga gtgtgcacag	360
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&lt;210&gt; 594

&lt;211&gt; 711

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g443 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 594

cagatgctga cagattggtg gggacctaat aggaccacaa gttacgtgaa ctcaccattc	60
aattccttgt ctctctgtag ttatgtgcca ctatataatt tctacaatta ttttataatt	120
atatgccatc ctttgttaata tttgttaatc atgaacctat atctctcct taatcttact	180
ttaatacttg agtgataatt cattcatttt tgtcatcatg tatactctca tcctaaaatt	240
cccaagggtat gaaaaaaaaa aaccttcagg ataattccct ccattgtgtg ctagctatgc	300
tgaaaacagt ttttctagat gctacaattg aagaaatgtc tgtatttgtg ttaatacaat	360
gtaaatgtcc taatatgcct tatcagtaat tttacctgct atggctacat tgagggtgcac	420
taagaatgaa tactagtaat taaattagaa gcaagctgag aaatcagtat catcatcatc	480
atcatagggtg tcatttcatt atagattcaa tcttctatgg aatcattgtg taaatgctct	540
tgaagatggt aacaactcct cccaagacca agaaatgatt ctttatcttg ttttacacta	600
tactaactcc aagtctcaaa cttctagttt atctgttaag aataaagata taaaggatat	660
ttcaaggaga atactaagat tggcagggaa tcttcaaaaa tgaaaggaaa c	711

&lt;210&gt; 595

&lt;211&gt; 765

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g444 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 595

atgtatttcc	tactgagtea	gctctccctc	attgacctaa	attacatctc	caccattgtt	60
cctaagatgg	catctgattt	tctgcatgga	aacaagtcta	tctccttcac	tgggtgtggg	120
attcatagtt	tcttcttcac	gacttttagcc	gttgtagaag	cgctactcct	gatataaatg	180
gcctatgttc	gttgcatgtc	tatttgcttt	cctctccact	atctcatgcg	catgagcaaa	240
agagtgtgtg	tgctgatgat	aacaggatct	tggatcatag	gctcgaatca	tgcttgtgct	300
cacactgtat	atatactcca	tattccttat	tgcccatcta	gggttatcaa	tcatttcttc	360
tgtgatgtcc	cagcaatggt	gactctggcc	tgcattggaca	cctgggtcta	tgagggcaca	420
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ctgacctgca	gcaccacact	cactgtagtg	actttctact	atgcaccctt	tgcttacacc	600
tatctacgcc	caagatccct	gcgatctccg	acagaggaca	aggttctggc	tgtcttctac	660
accatcctca	ctccaatgct	caaccccatc	atctacagcc	tgagaaacaa	ggaggtgatg	720
ggggccctga	cagagtgat	tcagaaaatc	ttttcagtga	aaata		765

&lt;210&gt; 596

&lt;211&gt; 960

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g445 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 596

ctgtcatgac	caaccagagc	tgcccagaaa	cagttcatct	tactgggttt	ctcaggcaga	60
cccaggctgg	agcatgtcct	ctttgtgttt	gtcctcatct	tctaccttgt	gaccttagtg	120
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ctcttcatgt	tcctgggcct	gggtggcaag	agtgtattct	cttggcagcc	gtggcctatg	360
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gctggaagtt	ggtgtctgtg	gcccgggggt	gttgactcc	tcagttctct	agttatgtct	480
cctgtgacta	tgaagctgcc	acgatgtgga	agatgtaagt	tgaaacattt	cctgtgtgag	540
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accttatcgg	tagtaattgt	cctgatgcct	ttgtgtctta	tcctcatctc	ttatagctac	660
attgccctag	cagtgtctgag	aatcaagtca	gccgcaggaa	gaagggaaggc	cttcaatatg	720
tgccgggtccc	acctcaccgt	ggtctccttg	ttttatggga	atattatcta	tatgtatatg	780
caaccatgaa	ataattcttc	tcaggaccaa	gggaagtctc	ttaccctttt	ctacaactta	840
atgaccccca	tgtaaaccct	tgctcatctat	acactgagaa	acaaggatgt	aaaagggtgca	900
ctgaagaggc	ttgtgtctag	aaaacacagt	gacagtgcct	gctcttgaga	ctgcttcttt	960

&lt;210&gt; 597

&lt;211&gt; 377

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g446 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 597

atggaaaatt	acaatcaaac	atcaactgct	ttcatcttgt	tgggattgtc	gccaccacca	60
aaaattggcc	atttcatctt	cattctcatt	aatttcgttt	tcctaattggc	tctaattgga	120
aacctatcca	tgattcttct	catcttcttg	gacatccatc	tcacacaccc	catgtatttc	180
ctacttagtc	agctctccct	cattgacctc	aatttatatt	ccaccattgt	tcctaagatg	240
gtttatgatt	tttcatgtat	ggaaacaagt	ctatctcctt	cactgggtgt	gggattcaga	300
gtttcttctt	cctgacttta	gcagggtgcag	aagcgtctgt	cctgacatca	atggcctatg	360
atcgttatgt	ggctatt					377

&lt;210&gt; 598

&lt;211&gt; 979

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g447 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 598

atggaaagag	ctaacgacag	caccttctct	ggattcatcc	tcctgggctt	ctccaacagg	60
cctcagctgg	aaacagctct	ctttgtggtc	atcttgatca	tctactttct	gagctttctg	120
ggcaatggca	ccattatact	tttatccatt	gtagatcctc	gcctccatac	ccctatgtat	180
ttcttctct	ccaatctctc	ttttatggat	ctttgtttga	ccacttgtag	tgtccctcag	240
acactggtea	actttaaggg	gaaggacaag	accatcacct	atgggtggctg	cgtagcccag	300
ctattcattg	ccttgggact	cggggggagt	ggagtgtgtc	ttattgtctg	ccatggccta	360
tgaccgctat	gcagccgtct	gccgccact	ccactacatg	gtgagcatgc	atccccaact	420
ttgcttgtag	ttggttgtaa	ccacttggct	cacagggttt	ggcaattctg	tgatacagac	480
agcattgacc	atgactctcc	ccctctgtga	taaaaaccaa	gtggatcatt	tcttctgtga	540
agttccagtg	atgctgaaac	tgctctgcac	caacacctcc	atcaacgagg	ctgaaatctt	600
tgcttccagt	gtcttctctt	tggtgggtgcc	tctctcactc	atcttagcat	cctatggtca	660
cattactcat	gcagtcctga	agataaaagtc	agctcaaggg	aggcagaagg	cttttggaac	720
ctgtggttct	cacctcctgg	tagtgatcat	tttctttggg	acactcatct	ccatgtacct	780
ccagcctccc	tccagttatt	cacaggatgt	gaacaaaagc	attgcactct	tctatactct	840
ggtgactcct	ctactgaatc	ccctaattta	cactctgagg	aacaaggaag	tcaaaggggc	900
aactaagaag	actagtgggg	aggaccatag	atgcatgaga	aagttaacgc	agggtttgca	960
gttccaaaca	tttgtgcac					979

&lt;210&gt; 599

&lt;211&gt; 936

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g448 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 599

atggaaaatt	acaatcaaac	atcaactgat	ttcatcttat	tggggctggt	tccaccatca	60
ataattgacc	ttttcttctt	cattctcatt	gttttcattt	tcctgatggc	tctaattgga	120
aacctgtcca	tgattcttct	catcttcttg	gacaccatc	tccacacacc	catgtatttc	180
ctactgagtc	agctctccct	cattgacctt	aattacatct	ccaccattgt	tcctaagatg	240
gcactctgatt	ttctgcatgg	aaacaagtct	atctccttca	ctgggtgtgg	gattcagagt	300
ttcttcttct	tggcattagg	aggtgcagaa	gcactacttt	tggcatctat	ggcctatgat	360
cgttacattg	ctatttgctt	tcctctccac	tatctcatcc	gcattgagcaa	aagagtgtgt	420
gtgctgatga	taacagggtc	ttggatcata	ggctcgatca	atgcttgtgc	tcacactgta	480
tatgtactcc	atattcctta	ttgccgatcc	agggccatca	atcatttctt	ctgtgatgtc	540
ccagcaatgg	tgactctggc	ctgcatggac	acctgggtct	atgagggcac	agtgtttttg	600
agtgccacca	tctttctcgt	gtttcccttc	attggtattt	catgttccca	tggccaggtt	660
ctctttgctg	tctaccacat	gaaatctgca	gaaggaggga	agaaagccta	tttgacctgc	720
agcaccacc	tcactgtagt	aactttctac	tatgcacctt	ttgtctacac	ttatctacgt	780
ccaagatccc	tgcatctccc	aacagaggac	aaggttctgg	ctgtcttcta	caccatcctc	840
acccaatgc	tcaaccccat	catctatagc	ctgaggaaca	aggaggtgat	ggggggcctg	900
acacgagtga	gtcagagaat	ctgctctgtg	aaaatg			936

&lt;210&gt; 600

&lt;211&gt; 936

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g449 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 600

atgcccaatt	caaccaccgt	gatggaattt	ctctcatga	ggttttctga	tgtgtggaca	60
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ctacagattt tacattctgc atccttcttt atgttgatt tggtaactct aatgggaaac 120
atcctcattg tgaccgtcac cactgtgtac agcagccttc acatgcccac gtacttcttc 180
ctcaggaatc tgtctatctt ggatgcctgc tacatttctg ttacagtccc tacctcatgt 240
gtcaattccc tactggacag caccaccatt tctaaggcgg gatgtgtagc tcaggctctc 300
ctcgtggttt tttttgtata tgtggagctt ctgtttctca ccattatggc tcatgaccgc 360
tatgtggctg tctgccagcc acttcactac cctgtgatcg tgaactctcg aatctgcac 420
cagatgacac tggcctccct actcagtggg cttgtctatg caggcatgca cactggcagc 480
acattccagc tgcccttctg tcgggtccaac gttattcacc aattcttctg tgacatcccc 540
tctctgtcga agctctcttg ctctgacacc ttcagcaatg aggtcatgat tgttgtctct 600
gctctggggg taggtggcgg ctgtttcacc tttatcatca ggtcttacat tcacatcttt 660
tcgaccgtgc tcgggtttcc aagaggagca gacagaacaa aggccttttc cacctgcac 720
cctcacatcc tgggtggtgtc agtcttcttc agttcatgct cttctgtgta cctcaggcca 780
cctgcgatac ctgcagccac ccaggatctg atccttctg gtttttatcc cataatgcct 840
cccctcttta accctattat ttacagtctt agaaataagc aaataaagggt ggccatcaag 900
aaaatcatga agagaatttt ttattcagaa aatgtg 936

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&lt;210&gt; 601

&lt;211&gt; 931

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g450 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;221&gt; misc\_feature

&lt;222&gt; (1)...(931)

&lt;223&gt; n = A,T,C or G

&lt;400&gt; 601

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aggaatgccc cactggaaaa atacaatcaa acatcaactg atttcatctt attggggatc 60
ttcccaccat ccagaattgg ctttctcctc ttcattctcc ttgttctcat ttgtctattg 120
gctttaattg gcaatcagtc cgtgatcctt ctcatcttct tggacactca tctccacacg 180
cccatttatt tcttacttag tcggctctac ctcatgacc taaattacat ctccactatt 240
gtccccagat gttttctgat tttctgtttg gaaacaagtc tatttctctc attgggtgtg 300
gaattcagag tttcttcttt gtgactttag cagggtgcaga aatgctgcca ctgacatcaa 360
tggcctgtga tcattatgta gctgtttgct ttcctctcca ctatcccatc catatgagca 420
agatagtatg tgctgatgat aataggatct tggataatgg gctctatcga cacttgtgct 480
cacatttcat atatgcccca tatccctggt gctcagccag ggctgtgatg tcccagccat 540
ggtgactctg gccttcgtgg acacctgggt ctatgagtgc acagtgtttt tgagcacaac 600
cctctttctc atgtttacct ttattggtat tgcattgtcc tatggtgagg ttctccttac 660
tgtctaccac attaaatctg cagaagggag gaagaaggcc tattcgacct gtagcaccca 720
cctcactgta gtaattntct actatgcaat gtttgcttat acctatctat atccaagata 780
cctgcaatct ccaacagagg acaaggttct ggctgtgttc tacaccatcc tcacctcaat 840
gctcaacccc atcatctaca gcctgagaaa cagggagggt atggggggcc tgacacgagt 900
gagtcagaga atcttccctg tgaagatgaa g 931

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&lt;210&gt; 602

&lt;211&gt; 577

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g451 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 602

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agacacacag agccacggaa tctcacaggt gtctgagaat tcctcctcct gggactctca 60
gaggatccag aactgcagcc tgctctcgtt ttgctgtccc tgcctctgct cctgtccttg 120
tatctggta tggttctgag gaacctgctc agcatcctgg ctgtcagctc tgactccccc 180
ctccataccc ccattgactt ctctctctcc aacctgtgct gggctgacat cgggttccact 240
tcggccacgg ttcccaagggt gactgtggac atgcagtgc atagcagagt catctctcat 300
gcgggctgcc tgacacagat gtctttcttg gtcctttttt gcatgtatag aatgcattgt 360

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cctgactgtg	atggcctatg	acggctttgt	agccatctgt	ctccctctgc	actaccaggt	420
catcatgaat	cctcacctct	gtgtcttctt	cgttttgggt	tcctttttcc	ttagcctgtt	480
ggattcccag	ctgcacgggt	ggattgtgtg	acaattcacc	atcatgaaga	atgtggaaat	540
ctctcatttt	gtaagtgacc	cctctcaact	tctcaac			577

&lt;210&gt; 603

&lt;211&gt; 952

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g452 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 603

atggacagaa	gaaaccagac	ctgcatctat	gaatttcttc	tcattgggctt	ctctgaacac	60
caggagcagc	aggctctttt	gtttgggctt	ttcctgggtca	tgtacttggt	cactgtgttg	120
gagaacctgc	taatcatcct	ggccattggc	tctgacctgc	acctccacac	cccccatgta	180
cctcttctcg	tccaacctgt	ccttttttga	tattggcttt	atctctacaa	taattcccaa	240
gatgctagat	catattagct	caggaattaa	gctgatttct	tatggggagt	gtctgacaca	300
actctatttc	tctggcctat	ttgcagatct	ggacaacaac	tttctcctgg	ctgtgatggc	360
ccttgaccgc	tatgtggcca	tcagccatcc	tctccattat	gccctaacca	tgaactccca	420
acgctgtgtc	ctgttggtgg	ctgtgtcatg	gggtatcact	atcttcatg	ccctagtgc	480
tacctctcta	gtgaccaggc	tttccttctg	tgggtccaaat	attatccctc	acttcttctg	540
tgatctggtc	ccactcctga	agctggcctg	ctccagtact	tgtgtcaatg	atctgggtgt	600
catccttggt	gcaggaacac	tgtgtattgc	gccctttgtc	tgcctcctta	tgtcctactt	660
ttacattgca	ttggccatcc	tgagaattga	ttccccaagg	ggtaagcaaa	gggccttctc	720
cagctgcact	tcccacctct	ctgtagtctc	tctgttctat	agcacagcta	tcgggtgtct	780
tttatgtcct	ccatcatccc	actcagatgg	aaaggacaga	gtcttctcag	tcattgtacac	840
gggtgtgact	cccattgtga	accccttcat	ctacagcctg	aggaacaggg	atatgaaggg	900
ggcactggga	aaactgcttg	gaataaaaaac	atcctaacac	ccttactcaa	ga	952

&lt;210&gt; 604

&lt;211&gt; 754

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g453 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 604

catttgtagt	ggtgcgtggt	cagataacctg	ggtattgtgg	tggagataca	catagtcttt	60
tgaacattcc	gttgtagggt	gctggtagct	ggatatgtcc	tttaaaactt	tgtggcaatt	120
catttgagaa	gaaacgcagc	tttttctatt	gagttcttat	gctataagta	aaggatgcaa	180
gacattaatt	agacaaaata	aggtaaaatt	ttgtattcgc	ttagagaggt	taagaggcta	240
ttagccacta	gtctctatag	tgcctaagta	aatcgattct	gcttaataaa	ctgctacctg	300
gcttagtaag	taaacaaatt	gaaacttatt	ttaggaaaga	aatatatatt	cttatatcta	360
catcagattc	tcttatgtag	aaacactaga	gggtgaatga	ggagttaatg	taagcagcat	420
catatttttg	ctcattcctt	tctctatgat	ttctgcttct	tctgtccaaa	ttctgtgagg	480
tgtcctctag	atgaaattat	cacaggcatg	gaaaagggtca	ttttccactt	ggtccatcct	540
catgattgca	gttgtaacat	actgggactc	attcattttc	acatatgtat	atgagactta	600
aatcatccac	atttcaggcc	aggtttaagt	tctagaaata	ttctatgctt	tccttgcaat	660
tacactcaat	cctgtcgtct	acagcgttgg	cactgacagt	gttctgtgtg	caatgaaaaa	720
tatgctctag	agcaacattc	tacataaaaa	aaag			754

&lt;210&gt; 605

&lt;211&gt; 939

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g454 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 605

atggaccaga	tcaaccacac	taatgtgaag	gagtttttct	tcctggaact	tacacgttcc	60
cgagagctgg	agtttttctt	gtttgtggtc	ttctttgctg	tgtatgtagc	aacagtcctg	120
ggaaatgcac	tcattgtggt	cactattacc	tgtgagtcct	gcctacacac	tcctatgtac	180
tttctcctgc	ggaacaaatc	agtcctggac	atcggttttt	catctatcac	cgtccccaag	240
ttcctgggtg	atctttttatc	agacaggaaa	accatctcct	acaatgactg	catggcacag	300
atctttttct	tccactttgc	tgggtggggca	gatatttttt	tcctctctgt	gatggcctat	360
gacagatacc	ttgcaatcgc	caagccctg	cactatgtga	ccatgatgag	gaaagaggtg	420
tgggtggcct	tgggtgggtg	ttcttgggtg	agtgggtggt	tgcattcaat	catccaggtg	480
attctgatgc	ttccattccc	cttctgtggc	cccaacacac	tggatgcctt	ctactgttat	540
gtgctccagg	tggtaaaact	ggcctgcact	gacacctttg	ctttggagct	tttcatgatc	600
tctaacaacg	gactgggtgac	cctgctctgg	ttcctcctgc	tcctgggctc	ctacactgtc	660
attctggtga	tgctgagatc	ccactctggg	gaggggcgga	acaaggccct	ctccacgtgc	720
acgtcccaca	tgctgggtgg	gactcttcac	ttcgtgcctt	gtgtttacat	ctactgccgg	780
cccttcata	cgctgcccac	ggacacaacc	atatccatta	ataacacggt	cattaccccc	840
atgctgaacc	ccatcatcta	ttccttgaga	aatcaagaga	tgaagtcagc	catgcagagg	900
ctgcagagga	gacttggggc	ttccgagagc	agaaaatgg			939

&lt;210&gt; 606

&lt;211&gt; 927

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g455 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 606

atggaaagaa	tcaaccacac	cagcagtgct	tccgagttta	tcctcctggg	actctcctcc	60
cggcctgagg	accaaagac	actctttgtt	ctcttcctca	tcgtgtacct	ggtcaccata	120
acagggaacc	tgtcatcat	cctggccatt	cgcttcaacc	cccatcttca	gaccctatg	180
tattttcttct	tgagttttct	gtctctcact	gatattttgt	ttacaacaag	cgttggtccc	240
aagatgctga	tgaacttctt	gtcagaaaag	aagaccatct	cctatgctgg	gtgtctgaca	300
cagatgtatt	ttctctatgc	cttgggcaac	agtgcagct	gccttctggc	agtcatggcc	360
tttgaccgct	atgtggcctg	ctgtgaccct	ttccactatg	tcaccaccat	gagccaccac	420
cactgtgtcc	tgctgggtgg	cttctcctgc	tcatttcttc	acctccactc	actcctgcac	480
acactttctg	tgaatcgtct	caccttctgt	gactccaatg	ttatccacca	ctttctctgt	540
gacctcagcc	ctgtgctgaa	attgtcctgc	tcttccatat	ttgtcaatga	aattgtgcag	600
atgacagaag	cacctattgt	tttgggtgact	cgttttctct	gcattgcttt	ctcttatata	660
cgaatcctca	ctacagttct	caagattccc	tctacttctg	ggaaacgcaa	agccttctcc	720
acctgtgggt	tttacctcac	cgtgggtgacg	ctcttttatg	gaagcatctt	ctgtgtctat	780
ttacagcccc	catccaccta	cgctgtcaag	gaccacgtgg	caacaattgt	ttacacagtt	840
ttgtcatcca	tgtcaatcc	ttttatctac	agcctgagaa	acaaagacct	gaaacagggc	900
ctgaggaagc	ttatgagcaa	gagatcc				927

&lt;210&gt; 607

&lt;211&gt; 939

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g456 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 607

atggccaatg	tcaccttggg	gacaggattt	cttcttatgg	ggttttctaa	tatccagaag	60
ctgcggattt	tatatgggtg	gctcttecta	ctgatttacc	tggcagccct	aatgagtaac	120
cttctcatca	ttactctcat	taccctggac	gtaaagctcc	aaacacccat	gtacttcttc	180
ctgaagaact	tatccttttt	ggatgtcttc	ctgggtgtctg	ttccaatccc	aaaattcatt	240
gtcaacaacc	taaccacaaa	caattccatt	tccattctag	gatgtgcctt	ccagctactt	300
ttaatgactt	ccttctcagc	aggagagata	tttatcctca	ctgccatgtc	ctatgaccgc	360
tatgtagcca	tctgtgtctc	cctgaactac	gaggtaatca	tgaatactgg	agtctgtgtg	420

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tcattactaa	ggatttccctg	ttctgaaaca	ctaattggtaa	tttatgcagg	tattggagtt	600
gggtgatgtt	taagcatttc	ttgtttcacc	tgtattgtga	tctcttacat	ttatatcttc	660
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ccccatctca	ctgttttcac	tggtttttatc	ataactgctt	attttgttta	tcttaagcca	780
ccttcaaatt	caccatctgt	tattgacagg	ctgctttctg	tgatctacac	tgtgatgcct	840
ccagtattta	accctgtaac	ctacagcctg	cggaacaatg	acatgaaatg	tgctctgata	900
aggttgctgc	agaaaacata	tggtcaggag	gcttacttc			939

&lt;210&gt; 608

&lt;211&gt; 972

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g457 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 608

atggctgtag	gaaggaacaa	cacaattgtg	acaaaattca	ttctcctggg	actttcagac	60
catcctcaaa	tgaagatttt	ccttttcatg	ttatttctgg	ggctctacct	cctgacgttg	120
gcctggaact	taagcctcat	tgccttcatt	aagatggact	ctcacctgca	catgcccatt	180
tacttcttcc	tcagtaacct	gtccttccctg	gacatctgct	atgtgtcctc	caccgcccct	240
aagatgctgt	ctgacatcat	cacagagcag	aaaaccattt	cctttgttgg	ctgtgccact	300
cagtactttg	tcttctgtgg	gatggggctg	actgaatgct	ttctcctggc	agctatggcc	360
tatgaccggt	atgctgcaat	ctgcaacccc	ttgctttaca	cagtcctcat	atcccataca	420
ctttgtttaa	agatgggtgg	tggcgccctat	gtgggtggat	tccttagttc	tttcattgaa	480
acatactctg	tctatcagca	tgatttctgt	gggccctata	tgatcaacca	ctttttctgt	540
gacctccctc	cagtcctggc	tctgtcctgc	tctgatacct	tcaccagcga	gggtgtgacc	600
ttcatagtca	gtgttgctgt	tggaaatagtg	tctgtgctag	tggtcctcat	ctcttatggg	660
tacattgttg	ctgctgttgt	gaagatcagc	tcagctacag	gtaggacaaa	ggccttcagc	720
acttgtgcct	ctcacctgac	tgctgtgacc	ctcttctatg	gttctggatt	cttcatgtac	780
atgcgaccca	gttcagcta	ctccctaacc	agggacaagg	tggtgtccat	attctatgcc	840
ttggtgatcc	ccgtgggtgaa	tcccatcatc	tacagtttta	ggaataagga	gattaaaaat	900
gccatgagga	aagccatgga	aagggaacccc	gggattttctc	acggtgggacc	attcattttt	960
atgaccttgg	gc					972

&lt;210&gt; 609

&lt;211&gt; 942

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g458 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 609

atgaccaatc	agacacagat	gatggaattc	ttgcttgtga	gatttactga	gaattgggtg	60
ctcctgaggg	tgcattgttt	gctcttctca	ctgatctacc	tcacggctgt	gctgatgaat	120
ttagtcatca	ttctcctcat	gattctggac	catcgctctc	acatggcaat	gtactttttc	180
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ctcaactctg	tgcctccac	tgactccatc	tccttctctg	gggtgtgtgt	gcagctcttc	300
ttggtgggtac	tgctggctgg	atcagagatt	ggcatcctta	ctgccatgtc	ctatgaccgc	360
tatgctgcca	tctgctgccc	cctacactgt	gaggtgtgca	tgagcagagg	gctctgtgtc	420
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gccctactaa	agctcacttg	ttctaaagaa	catgccatca	ttagtgtcag	tgtggccatt	600
ggggctctgt	atgcattttc	atgttttagt	tgcattgtag	tttccctatg	gtacattttc	660
tctgctgtgt	taaggataat	acagagacag	agacaatcca	aagccttttc	caactgtgtg	720
cctcacctca	ttgttgtcac	tgtgtttctt	gtaacagggt	ctgttgcctt	tttaaagcca	780
gggtctgatg	caccttctat	tctagacttg	ctgggtgtctg	tgttctatct	tgtcgcacct	840
ccaaccttga	accctgttat	ctactgtctg	aagaacaagg	acattaaatc	cgctctgagt	900

aaagtcctgt ggaatgtag aagcagtggg gtaatgaaaa ga

942

<210> 610

<211> 921

<212> DNA

<213> Unknown (H38g459 nucleotide)

<220>

<223> Synthetic construct

<400> 610

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caggggaatta	tcttcctctt	ttttctcatt	gtctatcttg	tggtttttct	cggcaacatg	120
ctcatcatca	ttgcaaaaat	ctataacaac	accttgcata	cgcccatgta	tgttttcctt	180
ctgacactgg	ctgttggtga	catcatctgc	acaacaagca	tcataaccga	gatgctgggg	240
accatgctaa	catcagaaaa	taccatttca	tatgcaggct	gcattgtcca	gctcttcttg	300
ttcacatggt	ctctgggagc	tgagatggtt	ctcttcacca	ccatggccta	tgaccgctat	360
gtggccattt	gtttccctct	tcattacagt	actgttatga	accaccatat	gtgtgtagcc	420
ttgctcagca	tggtcatggc	tattgcagtc	accaattcct	gggtgcacac	agctcttatc	480
atgaggttga	ctttctgtgg	gccaaacacc	attgaccact	tcttctgtga	gataccccca	540
ttgctggctt	tgctctgtag	ccctgtaaga	atcaatgagg	tgatggtgta	tggtgctgat	600
attaccctgg	ccatagggga	ctttattctt	acctgcatct	cctatgggtt	tatcattggt	660
gctattctcc	gtatccgcac	agtagaaggc	aagaggaagg	ccttctcaac	atgctcatct	720
catctcacag	tggtgaccct	ttactattct	cctgtaattct	acacctatat	ccgccctgct	780
tccagctata	catttgaaag	agacaagggt	gtagctgcac	tctatactct	tgtagctccc	840
acattaaacc	cgatggtgta	cagcttccag	aataggggaga	tgcaggcagg	aattaggaag	900
gtgtttgcat	ttctgaaaca	c				921

<210> 611

<211> 810

<212> DNA

<213> Unknown (H38g460 nucleotide)

<220>

<223> Synthetic construct

<400> 611

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gaaaaagagc	tgcagctcat	cctctttcca	gtcttctctg	tgatctacct	tgtgacctg	120
atttggaaca	tggtctttat	catctctatc	agaatagact	ctcatctgaa	cacacccatg	180
tacttttttc	tcagtttcc	ctcatttaca	gacatctgct	attcttctac	catcagccca	240
aggatgcttt	cagacttctt	aaaagataag	aagacaattt	ccttcttgc	ctgtgccact	300
cagtattttc	ttggggcctg	gatgagtcct	gctgagtgct	gcctcttggt	catcatggcc	360
tgtagacagat	atgtggccat	tggcagcccc	ctgcagtact	cagcaatcat	ggtccctagt	420
atctgttgga	agatggtagc	tggagtctgt	gggggtggat	tccttagtag	cttagttcat	480
acagtccctt	gctttaatct	ctactactgt	gggccaata	tcattcaaca	tttcttctgt	540
aacacacttc	agattatttc	cttgtcttgc	tccaaccctt	ttatcagcca	aatgattctt	600
tttctggaag	ctatttttgt	tgggttgggc	tctttgcttg	ttatcctttt	gtcttatggg	660
ttcattgtag	cttccatact	gaaaatatca	tcaaccaa	gttggtgcaa	ggccttcaat	720
acctgtgctt	cccacctggc	agctgtggct	ctcttctatg	gcacagccct	ttctgtgtac	780
atgcatacta	gctctagcca	ctccatgaag				810

<210> 612

<211> 988

<212> DNA

<213> Unknown (H38g461 nucleotide)

<220>

<223> Synthetic construct

<400> 612

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aataagatta	ctttttttac	tgtttatcct	tttagagttc	acagaagatt	tgggggttaca	120
gcaagtgtc	tttttcatct	tttcatcat	ttatgtcatc	agcctctcag	gcaacatcat	180
tctgaattct	ctcatctgtg	ctgattcttg	gccctacaca	cccatgtatt	tcttctactgg	240
aaaccgggtc	cttctggatc	tctggtattc	ctctgtccac	atccccgata	tccctgtgac	300
ttgcatttct	gatgacaaaa	ccatctcctt	tcctggctgc	cttgctcagt	tcttctctgc	360
tgtgttggcc	taaaatgagt	gctatatgat	ggcttccatg	gcttatgacc	gctacatggc	420
aatctccaag	cccctgcttt	attcccgggc	cacattccca	gagttatgtg	ccagtcttgt	480
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aaagttgggtg	tgtgatgtga	aggagcgcta	ccaggctgtg	ctgcatttta	tgcttgccctc	660
caatcatcac	tcccactgca	cttattcttg	cgtccatctc	ttcatcattg	cagccatctc	720
gaagatccgt	tccattaagg	gccgcctcca	ggtcttctcc	acttgtgggt	ctccccctgac	780
ggctctcacc	ttgtactatg	gtgcaatctt	ctttattttac	tcccaaccaa	gaactagcta	840
tgcttataaa	atggataaat	tggggtcagt	gttctatact	gtggtgattc	caatgctaaa	900
ccccttgatc	tatagcttaa	gaaataagga	tgtcaaagat	gccttgaaga	aaatgttaga	960
tagacttcag	tttcttaaag	aaaaatat				988

&lt;210&gt; 613

&lt;211&gt; 1049

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g462 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 613

atggagcaga	gcaattattc	cgtgtatgcc	gactttatcc	ttctggggtt	gttcagcaac	60
gcccgtttcc	cctggcttct	ttgccctcat	tctcctgggc	tttgtgacct	ccatagccag	120
caacgtggtc	aagatcattc	tcattccacat	agactcccgc	ctccacaccc	ccatgtactt	180
cctgctcagc	cagctctccc	tcagggacat	cttgtatatt	tccaccattg	tgcccaaaat	240
gctggtcgac	caggtgatga	gccagagagc	catttccctt	gcaggatgca	ctgcccaca	300
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tcgctacgta	gccatctgca	accctctgca	ctatcctgac	ctcatgagcc	gcaagatctg	420
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cgtcaccacg	cagttcccct	tctgtgcctc	tcgggagatc	aaccacttct	tctgctgaggt	540
gectgccctt	ctgaagctct	cctgcacgga	cacatcagcc	tatgagacag	ccatgtatgt	600
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cactcccattg	ctcaatccac	tcattttacag	ccttaggaac	aaggatgtca	cgggggcccct	900
acagaagggt	gttgggaggt	gtgtgtcctc	aggaaaggta	accactttct	aaacaaattg	960
catatgctgc	tagagacttg	aaatgaagga	tacaagactt	tatcattgcc	cttgagttta	1020
aatattctct	gcctggaaac	aagtgaccc				1049

&lt;210&gt; 614

&lt;211&gt; 957

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g463 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 614

atgggtgttc	acaatttggt	cacgggtgact	cagtttatcc	ttatagggtc	ctcttacttc	60
tccaatgagc	actaccttct	ttttgtggcc	cttgccatta	tctgtcaggt	gttcttggtg	120
cgaagtggag	acattctctt	ggccattggg	actgtgatta	agttgcacac	tactcatgta	180
ttattttttg	gcaaattgtg	ccatcttaga	catattgtgt	tcatacagcta	ctatacctaa	240
gatgccttaag	attctctaga	ctgaggatca	cagcatttct	tttgtaggt	gagctttgca	300
gccctatttc	ctagtggcct	gggctgggaa	gaaagcttcc	tcactgttac	ggcttatgac	360

tggtgtgtgg	tcacatgttt	ctccctttgt	tacatcctga	tcataaaca	attggctctg	420
tccagctggt	ttatgggacc	tgagcagctg	ggtttctaaa	tttctctctc	ctccacgtag	480
tgtctaccct	ctgcctgtct	ttctgcaagc	ctgatcgagt	taaccagtat	tactgtgata	540
tctcaccgat	gggggacctg	ttgtgccagt	ccatgcacct	ggcaaacaatg	cttgttttag	600
tggaatcagt	tatcttgggg	atcagtgtct	ttctggctgc	ctttaacttt	tacatatata	660
tcactctccac	tatcctaaag	atccagtgtg	tagagtggag	tgcaaagtgc	ttctctacat	720
gcacttccca	cctccttacg	gtctgtttgt	tctatggcat	attgacattt	acctacattt	780
actccttctc	cagtcaaacac	tcacatgtct	aaggcaagcc	cagatctagc	cacagacagg	840
ctcatctcta	tgctatacag	agttattacc	ctgatgttta	acttcatcac	tgacaacctg	900
agaaacacag	aggtaaaagg	agcctcagaa	agggttttatg	tcattgaaca	tgtttat	957

&lt;210&gt; 615

&lt;211&gt; 840

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g464 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;221&gt; misc\_feature

&lt;222&gt; (1)...(840)

&lt;223&gt; n = A,T,C or G

&lt;400&gt; 615

atgtacctga	ccacgggtgct	ggggaacctg	ctcatcatgc	tgctcatcca	gctggactct	60
caccttcaca	cccccatgta	cttcttctctc	agccacttgg	ctctcactta	tttttctctt	120
tcactctgtca	ctgtccctaa	gatgctgatg	gacatgcgga	ctaagtacaa	atcgatctctc	180
tatgaggaat	gcattttctca	gatgtatttt	tttatatttt	ttactgacct	ggacagcttc	240
cttattacat	caatggcata	tgaccgatat	gttgccatat	gtcaccctct	ccactacact	300
gtcatcatga	gggaagagct	ctgtgtcttc	ttagtggctg	tatcttggat	tctgtcttgt	360
gccagctccc	tctctcacac	ccttctctctg	accggctgtg	ctttctgtgc	tgccaacacc	420
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gtggctctca	tgtaacagg	ggtaacaccc	atgttgaacc	cctttatcta	cngcattngg	780
aacaggggaca	tgaaagaggc	ccttgggaaa	ctcttcagta	gagcaacatt	tttctcttgg	840

&lt;210&gt; 616

&lt;211&gt; 909

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g465 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 616

atgaattcat	caagtgactg	aagacaacca	gtgatggacg	gggtgaatga	tagctccttg	60
cagggttttg	ttctgatggg	catatcagac	catccccagc	tggagatgat	cttttttata	120
gccatcctct	tctctatttt	gttgacccta	cttggaact	caaccatcat	cttgcctttcc	180
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ggcgacacaa	gtctcaacca	ggctgtgctc	aatggtgtct	gcaccttctt	cactgcagtc	660
ccactaagca	tcactgtgat	ctcctactgc	ctcattgtct	aggcagtgct	gaaaatccgc	720
tctgcagagg	ggaggcgaaa	ggcgttcaat	acgtgcctct	cccatctgct	gggtggtgtc	780

ctctttctatg	gctcagccag	ctatgggtat	ctgcttccgg	ccaagaacag	caaacaggac	840
cagggcaagt	tcatttccct	gttctactcg	ttggtcacac	ccatggtgaa	tccctcctc	900
tacacgctg						909

&lt;210&gt; 617

&lt;211&gt; 926

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g466 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 617

atgcagagga	gcaatcacac	agtgactgag	ttcatcctgc	tgggcttcac	cacagatcca	60
gggatgcaac	tgggcctctt	tgtggtgttc	ctgggtgtgt	actgtctgac	tgtggtagga	120
agtagcaccc	tcacgtgtt	gatctgtaat	gactcccacc	tacacacacc	catgtatttt	180
gtcattggaa	atctgtcatt	tctggatctc	tggatttctt	ctgtctacac	cccaaagatc	240
ctagtacact	gcatctctga	agacaaaagc	atctcctttg	ctggctgcct	gtgtcagttc	300
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tgtttggttt	tatatccta	tactgggggt	tttgtcaatg	caataatatt	aaccagcaac	480
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cctccaatgt	catctcccct	actgtgctca	tccttgccctc	ttacctctcc	atcatcacca	660
ccatccctag	gatccactct	accaggggcc	gcatcaaagt	cttctccaca	tgctcctccc	720
acctgatctc	cgttacctta	tactatggct	ccattctcta	caactactcc	cggccaagtt	780
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tgttgaatcc	catgatctac	agtctgagga	ataaagacat	gaaagacgct	ctgaaaaaat	900
tcttcaagtc	agcataatcc	aaagtc				926

&lt;210&gt; 618

&lt;211&gt; 936

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g467 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 618

atggacgggg	tgaatgatag	ctccttgacg	ggctttgttc	tgatgagcat	atcggaccat	60
ccccagctgg	agatgatctt	ttttatagcc	atcctcttct	cctatttget	gaccctactt	120
gggaaactcaa	ccatcatctt	gctttcccgc	ctggaggccc	ggctccatac	acccatgtac	180
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ctctatgtct	tcctttgggt	ggggggccacc	gagtgcaccc	tgctgggtggt	gatggcattt	360
gaccgctacg	tggcagtgtg	ccggcccctc	cgctacaccg	ccatcatgaa	ccccagctc	420
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cttccgggcca	agaacagcaa	acaggaccga	ggcaagttca	tttccctggt	ctactcgttg	840
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ctgaggaggt	tgctgggggaa	aggaagagaa	gttggc			936

&lt;210&gt; 619

&lt;211&gt; 247

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g468 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 619

ggtgagagggc ttaagacact caacacatgt gtgtcacata tctatgcagt gctgatcttc	60
tatgtgccta tggtagtggt gtccatgggt catcgatttg ggaggcatgc tcctgaatat	120
gtgcacaagt tcatgtctct ttgtacctcc aatgctctac ccaattatct attccatcaa	180
gactaaggag attcgcagga gactacacaa gatgttattg ggagctaagt tctgatcaag	240
gaaaact	247

&lt;210&gt; 620

&lt;211&gt; 936

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g469 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 620

atggaagtgg gaaattgcac catcctgact gaattcatct tggtaggggtt ctcagcagat	60
tcccagtggtg agccgattct atttggagtg tttctgatgc tctatttgat aaccttgta	120
ggaaacatga ccttggttat cttaatccga actgattccc acttgcatac acctatgtac	180
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aggcctagtt ccacctactc cctagagagg gacaaagtag ctgctctggt ctacaccgtg	840
atcaaccac tgctcaacc tctcatctat agcctgagaa acaaagatat caaagaggcc	900
ttcaggaaaag caacacagac tatacaacca caaaca	936

&lt;210&gt; 621

&lt;211&gt; 954

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g470 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 621

atgcctactg taaaccacag tggcactagc cacacagtct tccacttgct gggcatccct	60
ggcctacagg accagcacat gtggatttct atcccattct tcatttecta tgtcaccgcc	120
cttcttggtg acagcctgct catcttcatt atcctcacia agcgcagcct ccatgaaccc	180
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gcctttgacc actatattgc catatgttac ccactgaggt acaccaccat tcttacaat	420
gctctgatca agaaaaattg tgtgactgtc tctctgagaa gttatggtac aattttccct	480
atcatatttc ttttaaaaag attgactttc tgccagaata atattattcc acacaccttt	540
tgtgaacaca ttggcctagc caaatatgca tgtaatgaca ttcgataaaa catttggtat	600
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gtctgcattc tggctccacc tatgctgaat cccattattt atgggatcaa aaccaagcaa	900
atccaggaaac aggtgggttca gtttttggtt ataaaacaga aaataacttt gggt	954

<210> 622  
 <211> 942  
 <212> DNA  
 <213> Unknown (H38g471 nucleotide)

<220>  
 <223> Synthetic construct

<400> 622  
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 gtagtcaccc ccattgtgaa ccccatcatc tacagcctct ggaatcgaga tgtacagggg 900  
 gcactccgag ccttctcatc tgggcgaagg atctcagcta gt 942

<210> 623  
 <211> 946  
 <212> DNA  
 <213> Unknown (H38g472 nucleotide)

<220>  
 <223> Synthetic construct

<400> 623  
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 gaacccatgt atattcttct gtccatgttg gcagcctctg atctgggcct ctgtgcctct 240  
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 gcagatccgt cagagcctcc taaagcactt ccagcagaag aggatt 946

<210> 624  
 <211> 960  
 <212> DNA  
 <213> Unknown (H38g473 nucleotide)

<220>  
 <223> Synthetic construct

&lt;400&gt; 624

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tactttcttc	tctccaacct	gtgctgggct	gacatcggtt	tcacctcggc	catggttccc	240
aagatgattg	tggacatgca	gtctcatagc	agagtcacat	cttatgcggg	ctgcctgaca	300
cggatgtcct	tcttggctct	ttttgcatgt	atagaagaca	tgctcctgac	tgcatgggcc	360
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gagccatctc	agcttctcaa	ccttgccctgt	tctgacagcg	tcatacaatag	catattctta	600
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gccctctgga	ggctgcgcag	cagaacagtc	gaatctcatg	atctgttcca	tcctttttct	960

&lt;210&gt; 625

&lt;211&gt; 985

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g474 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 625

atgaaactca	taaaccatac	catcagaacc	caacctcctt	tctgctcatg	ggaattccag	60
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cactgctgcc	acactgggtg	tgggcactga	ctccatctgt	attgctgtct	cctatgcact	660
catcctccga	gctgtgttag	gtctttcttc	caaggaggca	agggctaaga	cctttggcac	720
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ggatggggcc	ctccggcttc	tgaagtgggg	ccctgctcag	tcataaagtc	ttcaacccca	960
ccctgaaacc	tttatcttct	ttgcc				985

&lt;210&gt; 626

&lt;211&gt; 989

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g475 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 626

cacacagagc	cacggcatct	cacagggtgtg	tgagaattcc	tcctcgtggg	actctcagag	60
gatccagaac	tgcagcctgt	cctcggtggg	gtgtccctgt	ccatgtatgg	ggtcacagtg	120
ataaggaacg	tgctcatcat	cctgggtgtg	agctctgact	cccacctcca	cacccccatg	180
ttttttcct	ctccaacgtg	tgggtgggctg	acatcagttt	cacgtcggcc	ggggttccca	240
agatgacggg	ggacatgcag	tcgcatagca	gagtcactta	ttatgcgggc	tgcatgactc	300
ggatgtcttt	tttgcctctt	ttagcatgta	tagaagacat	gctcgtgtgt	gtgatggcat	360
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atttcgatag	taatatgttt	ggttttcttc	ccatcacagg	gatctttttg	tcttaatata	660
aaagtgtccc	ctccattata	aggatttcat	cgtcagatgg	aaagtataaa	gctttctcca	720
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ccctgtggag	tgtgtgcagc	agcacagtta	aatcttttga	tgtgtcccat	cttttttgtg	960
tgtgggtaag	aaagggcacc	cacattaaa				989

&lt;210&gt; 627

&lt;211&gt; 512

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g476 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 627

cacacacagc	cacgggggtct	cacacgtgtg	tgagaattcc	tcctcctggg	actctcacag	60
gatccacaac	tgcagctgtg	ctctctgggc	tgtccctgtg	catgtgtctg	ggcacacagc	120
tggggaacct	gctgcatcat	cctgggtgtg	agctctgact	cccacctcca	cacccccatg	180
tactcttttc	tctccaacct	gtgctggggc	tgacatcagt	ttcacctcca	ccacggggcc	240
caagttgatt	gtggacatcc	actcttacac	cagagacatc	tcctatgcac	gctgtctgac	300
tcacacacct	ctctttgcc	tttttggagg	cgtgggaaag	agacatgctc	ctgagagtga	360
tgggctatga	ccgcgttgta	gacatctgtg	accctctata	tcattcacac	gccatgaacc	420
cctgtgtctg	tggctctcta	gatttgtggg	ctcttttttt	tctcacactt	ttatacacc	480
acctgcacaa	ctcgattgcc	ttacacatga	cc			512

&lt;210&gt; 628

&lt;211&gt; 967

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g477 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 628

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actgaagagt	cggtatcaga	agcttgggtc	ggtttctgta	gtcataagaa	acgttctttt	960
cctagaa						967

&lt;210&gt; 629

&lt;211&gt; 942

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g478 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 629

atggaggggt	ttaactattc	cagagtatct	gaattcatgt	tacttggact	tactgattct	60
cctgaactcc	agatattctt	ttttgtggtg	ttttctgtct	tctatttaat	gaccatgttg	120
ggcaactgcc	tgattttact	cactgtccta	tcacactcac	accttcactc	tcgcacgtac	180
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&lt;210&gt; 630

&lt;211&gt; 595

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g479 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 630

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cataatttct	tgtgtgccct	ttctcaactc	ccccatcggt	catgggtgtga	cactttcccc	180
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&lt;210&gt; 631

&lt;211&gt; 942

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g480 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 631

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atccgcaaag ggattctcaa gttcttccat aaatcccagg cc 942

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&lt;210&gt; 632

&lt;211&gt; 936

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g481 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 632

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atgggggttg tcaatgtcac tcacctgca ttcttctctc tgactgggtat ccttgggtctg 60
gagagctctc actcctgggt gtcagggccc ctctgcgtga tgtatgctgt ggcccttggg 120
ggaaatacag tgatcctgca ggctgtgcca gtggagccca gcctccatga gcccatgtac 180
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cgagccattt tccgcatggt tcaccacatc aaaata 936

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&lt;210&gt; 633

&lt;211&gt; 467

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g482 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;221&gt; misc\_feature

&lt;222&gt; (1)...(467)

&lt;223&gt; n = A,T,C or G

&lt;400&gt; 633

```

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gctctggagt tgttcctctt tgggtttttc ttgctattct acagcttaac cctgatggga 120
aatgggatta tcctgggggt catctacttg gactctagac tgcacacacc catgtatgtc 180
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cggtatgtgg caatctgtca ccccttgca atacaccnt cattatgaac tggagagtgt 420
gcactgtcct ggccctcaact tgctggatat ttagctttct cttgggt 467

```

&lt;210&gt; 634

&lt;211&gt; 988

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g483 nucleotide)

&lt;220&gt;

<223> Synthetic construct

<221> misc\_feature

<222> (1)...(988)

<223> n = A,T,C or G

<400> 634

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gaatggggtc	atctttggga	ttatctgcct	ggactctaag	cttcacacac	ccatgtactt	180
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tctatctgtc	ctcaagctgg	cctgtgctga	cacctggggt	aaccaagtgg	tcatatttgc	600
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cccagactct	aatcaacgag	aggagcagga	gaaaatgctg	tccctgtttc	acagtgtctt	840
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ccacagagca	ctccagagga	agaggtccat	gagaacgggtg	tatgggcttt	gcctttaaaa	960
catgtggttt	gctgaagcaa	gaattttg				988

<210> 635

<211> 941

<212> DNA

<213> Unknown (H38g484 nucleotide)

<220>

<223> Synthetic construct

<400> 635

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gagatggaag	tgctcctctt	ttagatcttc	tccctgttat	acatcttcag	cctgctggca	120
aatggcatga	tcttgggact	catctgtctg	gaccacattc	tgctacccc	catgtacttc	180
ttcctctcac	acctggccat	cattgacatg	tcctatgctt	ccaacaatgt	tcccaagatg	240
ttggcaaatc	tgatgaacaa	gaaaagaacc	atctcctttc	ttccatgcat	aatgcagacc	300
tattttgtatt	tctcttttgc	tgctacagag	tgtctgattt	tgggtggtgat	gtcctatgat	360
aggtatgtgg	ccatttgcca	ccctctccag	tacactgtca	tcatgagctg	gagagtgtgc	420
acgatcctgg	ctctcacatc	ctggtcatgt	gggtttgccc	tgctccctgg	acatgcaatt	480
cttcttctaa	ggttgccgtt	ctgcgggccc	cgggatgtga	accacctctt	ctgtgaaatt	540
ctgtctgtcc	tcaagctggc	ctgttctgac	acctgggggt	aaccacagtg	gtcatatttg	600
ctacctgtgt	gtttgtctta	gttggacctc	tttgtttgat	gcttgtctcc	tacatgcaca	660
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tcctcccacc	tgtgtgtggt	tggactcttc	ttgtggcata	gccactgggtg	gtttacatag	780
tcccagactc	taatcaacga	gaggagcagg	agaaaatgct	gtccctgttt	cacagtgtct	840
tgaacccaat	tctgaacccc	ctgatctaca	gtctgaggaa	tgctcaggtg	aagggcgccc	900
tccacagagc	actgcagagg	acgctgtcta	tgtaaggagt	g		941

<210> 636

<211> 1002

<212> DNA

<213> Unknown (H38g485 nucleotide)

<220>

<223> Synthetic construct

<400> 636

atgtgttata	tttctcagct	atgcctcagc	cttgggggaac	acactttaca	tatggggatg	60
------------	------------	------------	-------------	------------	------------	----

gtgagacata	ccaatgagag	caacctagca	ggtttcatcc	ttttagggtt	ttctgattat	120
cctcagttac	agaagggttct	atattgtgctc	atattgattc	tgtattttact	aactattttg	180
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ttcttccctt	ctcatctctc	cttccctgtac	cgctgcttca	ccagcagtg	tattccccag	300
ctcctggtaa	acctgtggga	acccatgaaa	actatcgct	atgggtggctg	tttgggtcac	360
ctttacaact	cccatgccct	gggatccact	gagtgcgtcc	tcccggctgt	gatgtcctgt	420
gaccgctatg	tggctgtctg	ccgtcctctc	cattacactg	tcttaatgca	tatccatctc	480
tgcattggcct	tggcatctat	ggcatggctc	agtgggaatag	ccaccaccct	ggtacagtcc	540
acctcacc	tgcagctgcc	cttctgtggg	catcgccaag	tggatcattt	catctgcgag	600
gtccctgtgc	tcataagct	ggcttgtgtg	ggcaccacgt	ttaacgaggc	tgagcttttt	660
gtggctagta	tccttttctc	tatagtgcct	gtctcattca	tcctgggtctc	ctctgggtac	720
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cagccagcca	agagtagatc	cagggaccag	ggcaagtttg	tttctctctt	ctacactgtg	900
gtaacccgca	tgtttaaccc	tcttatttat	accttgagga	tcaaggaggt	gaaaggggca	960
ttaaagaaag	ttctagcaaa	ggctctggga	gtaaattatt	ta		1002

&lt;210&gt; 637

&lt;211&gt; 510

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g486 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 637

atggaaggca	acaagacatg	gatcacagac	atcaccttgc	cgcgattcca	ggttgggtcca	60
gcactggaga	ttctcctctg	tggacttttc	tctgccttct	atacactcac	cctgctgggg	120
aatgggggtca	tctttgggat	tatctgcctg	gactgtgaagc	ttcacacacc	catgtacttc	180
ttcctctcac	acctggccat	tgttgacata	tcctatgctt	ccaactatgt	ccccaagatg	240
ctgacgaatc	ttatgaacca	ggaaagcacc	atctcctttt	ttccatgcat	aatgcagaca	300
ttcttgtatt	tggcttttgc	tcacgtagag	tgtctgattt	tgggtgggtgat	gtcctatgat	360
cgctatgcgg	acatctgcca	ccccttacgt	tacaatatcc	tcattgagctg	gagagtgtgc	420
actgtcctgg	ctgtggcttc	ctgggtgttc	agcttctctc	tggctctgggt	cccgtttagt	480
tctcagtcgc	tgaggtgcat	gaacgtactg				510

&lt;210&gt; 638

&lt;211&gt; 924

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g487 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 638

atggacacag	gcaacaaaac	tctgccccag	gactttctct	tactgggctt	tcttgggtct	60
caaaactcttc	agctctctct	ctttatgctt	tttctgggtga	tgtacatcct	cacagttagt	120
ggtaatgtgg	ctatcttgat	gttgggtgagc	acctcccatc	agttgcatac	ccccatgtac	180
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atgtactttg	ttttctcatt	aggctgcaca	gagtacttcc	tcctggcagc	catggccttat	360
gaccgctgtc	ttgccatctg	ctatccttta	cactacggag	ccatcatgag	tagcctgtctc	420
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gtgattgtctg	ttgtgggttat	cctgagttca	tgcctcatca	cctttgtctc	ctatgtgtac	660
atcatcagca	ccatcctcag	gateccctct	gccagtggcc	ggagcaaagc	cttctccacg	720
tgtcctctgc	atctcaccgt	ggtgtctcatt	tgggtatgggt	ccacagtttt	ccttcacgtc	780
cgcacctcta	tcaaagatgc	cttggatctg	atcaaagctg	tccacgtcct	gaacactgtg	840
gtgactccag	ttttaaaccc	cttcatctat	acgttctcga	ataaggaagt	aagagagact	900
ctgctgaaga	aatggaaggg	aaaa				924

<210> 639  
 <211> 669  
 <212> DNA  
 <213> Unknown (H38g488 nucleotide)

<220>  
 <223> Synthetic construct

<400> 639  
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 agtgctgaga tggaagtgc cctcttttgg agcttctccc ttggaatagc cttggaactc 120  
 atctgtctgg accacagtct gcacactctc atacttcttc ctctcacacc tggccgcatc 180  
 tgacatggcc tatgcttcca acaatgttcc caagatgctg gtggatcttg caaactagaa 240  
 aagcaccatg tgcttttttc catgcataat gcagacattc ttgtatttgg cttttgctca 300  
 catagagtgt ctgattttgg tggttttgtc ctatgatcgc tatgtggcca tctgccaccc 360  
 cttacgttac aatgtcctca tgagctggag agagtgcact gtccctggctg tggcttcctg 420  
 ggtgttcagc ttcctcctgg ctctggtcca tttagtcttc attctgaggc tgccttcag 480  
 tgggctcatg aaatcaacca ctactgtgaa atcctgtctg tcccaagtt ggctgtgct 540  
 gacacctggc tcaaccaggt ggtcatcttt gcaagctgca tgttcacctt ggtaggggta 600  
 ctctgcctgg tgctgggtctc ttacttgggc atctggcggc atctgagatc agttgcgaag 660  
 ccaaaaagg 669

<210> 640  
 <211> 927  
 <212> DNA  
 <213> Unknown (H38g489 nucleotide)

<220>  
 <223> Synthetic construct

<400> 640  
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 cctcgtctgg aggtgttct ctttgtattt gtctttttct tctacctct gaccttctgtg 120  
 ggaaacttca ccataatcat catctcatat ctggatcccc ctcttcatac cccaatgtac 180  
 ttttttctca gcaacctctc tttactggac atctgcttca ctactagcct tgctcctcag 240  
 accttagtta acttgcaaag accaaagaag acgatcactt acggtggttg tgtggcgcaa 300  
 ctctatattt ctctggcact gggctccact gaatgtatcc tcttggetga catggccttg 360  
 gatcggtaca ttgctgtctg caaacccctc cactatgtag tcatcatgaa cccacggctt 420  
 tgccaacagc tggcatctat ctctggctc agtggtttgg ctagtctcct aatccatgca 480  
 acttttacct tgcaattgcc tctctgtggc aaccataggc tggaccattt tatttgcgaa 540  
 gtaccagctc ttctcaagtt ggcttgtgtg gacaccactg tcaatgaatt ggtgcttttt 600  
 gttgttagtg ttctgtttgt tgtcattcca ccagcactca tctccatctc ctatggcttc 660  
 ataactcaag ctgtgctgag gatcaaatca gtagaggcaa ggcacaaagc cttcagcacc 720  
 tgctcctccc accttacagt ggtgattata ttctatggca ccataatcta cgtgtacctg 780  
 caacctagt acagctatgc ccaggaccaa gggaagttaa tctccctctt ctacaccatg 840  
 gtgaccccca ctttaaatac tatcatctat actttaagga acaaggatat gaaagaggct 900  
 ctgaggaaac ttctctcggg aaaattg 927

<210> 641  
 <211> 1012  
 <212> DNA  
 <213> Unknown (H38g490 nucleotide)

<220>  
 <223> Synthetic construct

<400> 641  
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 atccagaacg gcagccgggc ctactgggc tgttctgtc catgtgcctg gtcatgggtg 120  
 tggggaacct gctcatcacc ctggccatca gccctgactc ccacctccac atccccatgt 180

acttcttcct	ctccaacctg	tccttgccctg	acatcggttt	cacctccacc	acggteccca	240
agatgattgt	ggacatccag	tctcacagca	gagtcattct	ctatgcaggc	tgcctgactc	300
agatgtctct	ctttgccatt	tttggaggca	tgggaagagag	acatgctcct	gagtgtgatg	360
gcctatgacc	ggtttgtagc	catctgtcac	cctctatata	attcagccat	catgaacccg	420
tgtttctgtg	gcttcctagt	tttgttgtct	ttttttttct	gtcctcagtc	ttttagactc	480
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tttcttctgt	gaccctttct	aactccccc	tcttgcatgt	tgtgacacct	tcaccaataa	600
gataatcatg	tatttccctg	ctgccatatt	tggttttctt	cccattctcag	ggaccctttt	660
ctcttactct	aaaattgttt	cctccattct	gagggtttca	tcatcagggtg	ggaagtataa	720
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tatctgttcc	attccttttg	tagtgtgggt	taaaaaaggc	agaaagggtca	aa	1012

&lt;210&gt; 642

&lt;211&gt; 879

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g491 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 642

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tacctggcag	ctgtcatagg	aaatctccta	atcatcatac	ttaccactct	ggatgttcac	120
ctccaaaccc	caatgtattt	ctttttgaga	aacttgtctt	tcttagattt	ttgttacatc	180
tctgtcacaa	ttccaaaatc	tattgttagt	tccttgactc	atgatacttc	catttctttc	240
tttgggtgtg	ctctgcaagc	cttctttttc	atggacttgg	caactacgga	ggtagccatc	300
cttacagtga	tgtcctatga	ccgtatatg	gccatctgcc	ggcctttaca	ttatgaggtc	360
atcataaac	aaggtgtctg	tctgaggatg	atggccatgt	cgtggctcag	tggggtgatc	420
tgtggattca	tgcagtgtat	agcaacattc	tcattaccat	tctgtgggcg	caatagaata	480
cgtcaatttt	tctgtaatat	tccacagctc	ctaagcctct	tagaccccaa	agtaattacc	540
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actctctcct	acatgtacat	tttttctgtc	atcatgagga	ttccttctaa	ggagggtaga	660
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ggcagcattg	cctatgtgaa	gccaatttca	aattctcccc	cgtttctgga	tgttttctctg	780
tctgcgttct	acacagtcgt	gcccccgacc	ctgaaccccg	tcattctatag	tctgaggaat	840
agggacatga	aggcagccct	gagaaggcag	tgtggtccc			879

&lt;210&gt; 643

&lt;211&gt; 1020

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g492 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 643

atgatggggc	atcagaatca	cactttcagc	agtgatttca	tacttttggg	attgttctct	60
tcttcccaa	caagtgtggt	cttcttctta	gacaatttgt	cattttcatt	atgagtgtaa	120
cagaaaatac	gctcatgata	ctcctcattc	gcagtgactc	ccgactccac	actccaatgt	180
attttctgct	cagccatctc	tccttaattg	atatcttgca	tgtttccaac	atcggtccca	240
aaatgggtcac	taactttctg	tcaggcagca	gaactatttc	atttgcagggt	tgtgggttcc	300
aggtatttct	gtccctcacc	ctcctgggtg	gtgagtgcct	tctcctgggt	gcaatgtcct	360
gtgatcgcta	tgtggctatc	tgtcaccgcg	tgcgctatcc	gattcttatg	aaggagtatg	420
ccagcgctct	catggctgga	ggctcctggc	tcattgggggt	tttcaactcc	acagtccaca	480
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aaattattct	tactgtcctc	cagatgaaat	catcagaggc	aaggaaaaag	tcattttcca	720

cttgttcctt	ccacatgatt	gtgggtcacga	tgtactatgg	gccatttatt	tttacatata	780
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tgatgaaaaa	tatgctcaaa	agtaactttc	tgcacaaaaa	aatgaatagg	aaaattcctg	960
aatgtgtgtt	ctgtctattt	ctatgttaaa	tgcctgaagg	atactcatga	gaggtttcct	1020

&lt;210&gt; 644

&lt;211&gt; 932

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g493 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 644

atgaagtggg	caaaccagac	agctgtgacg	gaatacgtcc	tgatggggct	acacgagcac	60
tgtaacctgg	aggtggctct	gtttgtgttc	tgcctgggca	tctactccgt	gaatgtgttg	120
gggaacgccc	tcctcatagg	gctgaacgtg	ctgcaccctc	gcctgcacaa	ccccatgtac	180
ttctcagcaa	cctctccctc	atggacatct	gcggcacctc	ctcctttgtg	cctctcatgc	240
tagacaattt	cctggaaaacc	cagaggacca	tttccctccc	tggtgtgtgc	ctgcagatgt	300
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ccgtccctgac	actggccccc	ctcttgcctc	tctgcctgtc	ttaccttttc	atcctgtctg	660
ccatcccttag	ggtacctctt	gctgcaggcc	ggtgcaaagc	cttctccacc	tgctcagccc	720
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tgaaccccat	catttacagc	ctgaggaatg	cagaggtgaa	agctgccgtc	ctaactctgc	900
tgagaggagg	tttgcctctc	aggaaagcat	cc			932

&lt;210&gt; 645

&lt;211&gt; 957

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g494 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 645

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cgacctcac	tagaaactgt	cctcttcata	gttgtcttga	gtttttacat	ggtatcgatc	120
ttgggcaatg	gcatcatcat	tctggtctcc	catacagatg	tgcacctcca	cacacctatg	180
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cagctcctgg	ctaacctctg	gggaccacag	aaaaccataa	gctatggagg	gtgtgtgggtc	300
cagttctata	tctcccattg	gctgggggca	accgagtgtg	tcctgctggc	cacctatgtc	360
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gtagtcactc	ctgcgctgaa	cccacttatt	tacaccctga	ggaacacgga	ggtgaagagc	900
gcctcccggc	acatggtatt	agagaactgc	tgtggctctg	caggcaagct	ggcgcaa	957

&lt;210&gt; 646

&lt;211&gt; 792

&lt;212&gt; DNA

<213> Unknown (H38g495 nucleotide)

<220>

<223> Synthetic construct

<400> 646

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atggacgtga	tgtctggttc	caccactgtg	cccaaatgg	cggtgacta	cttgaccgga	180
agtaaggcca	tctcccgcgc	tggctgtggt	gcgcagatct	tcttccctcc	cacactgggt	240
ggtggagagt	gcttcctctt	agcagccatg	gcctatgacc	gctatgcggc	tgtctgccac	300
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tggctcctgg	gtgcagctga	cgggctcctg	caggtgtgtg	ctaccctgag	cttcccatat	420
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cgctctacag	aagcccgcga	gaaggccttt	gccacctgct	cttcacatgt	ggctgtgggtg	660
ggactctttt	atggagctgc	cattttttacc	tatatgagac	ccaaatccca	caggtccact	720
aaccacgaca	aggttggtgc	agccttctat	actatgttca	cccctttact	aaacccctc	780
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<210> 647

<211> 662

<212> DNA

<213> Unknown (H38g496 nucleotide)

<220>

<223> Synthetic construct

<400> 647

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gccgtctgcc	ggctccctgca	ctacatggca	gtcatgcgcc	cacatctctg	cctgcagctg	240
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gc						662

<210> 648

<211> 936

<212> DNA

<213> Unknown (H38g497 nucleotide)

<220>

<223> Synthetic construct

<400> 648

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gggaacacag	ccatcatggc	ggtgagcgtg	ctagatatcc	acctgcacac	gcccggttac	180
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gaccgctacc	tggtccatctg	ccagccactc	aggtaccacg	tgtcatgag	ccaccggctc	420
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gtcacgacca	tgctgaaccc	caccatctac	agcctgagga	acaaggagggt	gaaggaggcc	900
gccaggaagg	tgtggggcag	gagtcggggc	tccagg			936

&lt;210&gt; 649

&lt;211&gt; -940

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g498 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 649

atggaaaggg	gaaattggac	attggtgact	gagttttatc	ttgtggggat	accaaccacc	60
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gaaacaccct	tattattatc	ctgattcttg	tggattacag	gctccactca	cccatgtatt	180
tcttctcag	caatctctct	ttcagtgaaa	cattaaccat	aacctgtgct	gttcctaaga	240
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cctatttcta	ttttctttcc	ggatgcactg	agttttattcc	ttttgctgtc	atgtcctatg	360
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tcctcaaggc	aggactgcc	cactgtgggtc	ccaacgtgat	tgagcacttt	ttctgtgaca	540
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&lt;210&gt; 650

&lt;211&gt; 927

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g499 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 650

atggcaaata	tcacaatcgt	gactgaattt	atccttatgg	ggttttctac	caataaaaaat	60
atgtgcattt	tgcattcgat	tctcttcttg	ttgatttatt	tgtgtgccct	gatggggaat	120
gtcctcatta	tcatgatcac	aactttggac	catcatctcc	acacccccgt	gtatttcttc	180
ttgaagaatc	tatctttctt	ggatctctgc	cttattttcag	tcacggctcc	caaactctatc	240
gccaatctct	tgatacaca	caactccatt	tcattccttg	gctgtgtttc	ccaggctctt	300
ttgttgcttt	cttcagcatc	tgacagagctg	ctcctcctca	cgggtgatgtc	ctttgaccgc	360
tatactgcta	tatgtcaccc	tctgcactat	gatgtcatca	tggacaggag	cacctgtgtc	420
caaagagcca	ctgtgtcttg	gctgtatggg	gggtctgattg	ctgtgatgca	cacagctggc	480
accttctcct	tatcctactg	tgggtccaac	atgggtccatc	agttcttctg	tgacattccc	540
cagttattag	ctatttcttg	ctcagaaaat	ttaataagag	aaattgcact	catccttatt	600
aatgtagttt	tggatttctg	ctgttttatt	gtcatcatca	ttacctatgt	ccacgtcttc	660
tctacagtca	agaagatccc	ttccacagaa	ggccagtcac	aagcctactc	tatttgccct	720
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acctttaatc	ccattatata	cagtttgaga	aacaaggcca	taaagggtggc	tctggggatg	900
ttgataaagg	gaaagctcac	caaaaag				927

&lt;210&gt; 651

<211> 942  
 <212> DNA  
 <213> Unknown (H38g500 nucleotide)

<220>  
 <223> Synthetic construct

<400> 651

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tcaggatcac gccagctcct cttctcccctg gtggctgtca tgtttgtcat aggccttctg	120
ggcaacaccg ttcttctctt cttgatccgt gtggactccc ggctccacac acccatgtac	180
ttcctgctca gccagctctc cctgtttgac attggctgtc ccatgggtcac catccccaag	240
atggcatcag actttctgcg gggagaaggt gccacctcct atggagggtg tgcagctcaa	300
atattcttcc tcacactgat ggggtgtggct gagggcgctc tgttggctcct catgtcttat	360
gaccgttatg ttgtgtgtg ccagcccctg cagtatcctg tacttatgag acgccaggta	420
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tccatcaccc tgcattttcc ctactgtgcc tcccgatttg tggatcactt cttctgtgag	540
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gtcaccccta cactcaaccc ctttatctac agtctgagga atccggagggt gtggatggct	900
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<210> 652  
 <211> 936  
 <212> DNA  
 <213> Unknown (H38g501 nucleotide)

<220>  
 <223> Synthetic construct

<400> 652

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ggaaacattc tcattatggg cacagtgcac tgtaggtcaa cccttcattc tcccttgtac	180
tttctccttg gaaatctctc ttttttggac atgtgtctct ccactgccac aacacccaag	240
atgatcatag atttgtcac tgaccacaag accatctctg tgtggggctg cgtgaccag	300
atgttcttca tgcacttctt tgggggtgct gagatgactt ttctgataat catggccttt	360
gacaggtatg tagccatatg taaacccctg cactatagga caatcatgag ccacaagctg	420
ctaaaggggt ttgcgatact ttcatggata attgggtttt tacactccat aagccagata	480
gttttaacaa tgaacttgcc tttctgtggc cacaatgtca taaacaacat attttgtgat	540
cttccccttg tgatcaagct tgcttgcaat gaaacataca ccctggaatt atttgtcatt	600
gctgacagcg ggctgctctc tttcacctgt ttcacctctt tgcttgcttc ttacattgtc	660
atcctgggtca gtgtaccaa aaaatcatca catgggctct ccaaggcgct gtccacattg	720
tctgccaca tcattgtggg cactctgttc tttggacctt gtatttttat ctatgtttgg	780
ccattcagta gtttggcaag caataaaact cttgccgtat tttatacagt tatcacacc	840
ttactgaatc cgagtattta taccctgaga aataagaaaa tgcaagaggc cataagaaaa	900
ttacgggtcc aatatgttag ttctgcacag aatttc	936

<210> 653  
 <211> 972  
 <212> DNA  
 <213> Unknown (H38g502 nucleotide)

<220>  
 <223> Synthetic construct

<400> 653

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--	----

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atatccataa	ttaagtaacc	taatcattat	ctttgtagt	aaactggatc	ctcaattgca	180
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tgctactcct	aagaaaatcg	ataatgtaat	tagtgaatat	aggaccatct	cctatgaagg	300
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aactttgtga	gttctagatc	aacttgataa	ctaaaatatt	ataatcacta	aaagcatcat	960
cattattgtt	gt					972

&lt;210&gt; 654

&lt;211&gt; 936

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g503 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 654

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cgatgctctc	agtttgtgaa	ttacagtaaa	atcttt			936

&lt;210&gt; 655

&lt;211&gt; 967

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g504 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 655

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ggcaaacctc	attgtagtgg	tcattgtaac	ctctgaccct	tacttgactc	cctccttgta	180
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gtcttttgta	gtaaacttgc	ccttctgtgg	ccctaagtgt	ttggacagct	tttactgtga	540

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agtgttcggg	caatttatgg	gttttagaaa	aactacttaa	gtggccttat	taaaacacag	960
aatttcc						967

&lt;210&gt; 656

&lt;211&gt; 873

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g505 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 656

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gttttaaatc	ctatcatcta	cacattcagg	aat			873

&lt;210&gt; 657

&lt;211&gt; 936

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g506 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 657

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cgggagattc	agcttctact	ttttgttttc	tctttgttgt	tctactttgc	gagcatgatg	120
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gacagataca	tgcccatatg	taaacctctc	cactacctga	ccatcatgag	ccaagaatg	420
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ctgtgcagtc	gtcttgcgca	ttttacaaag	attttg			936

&lt;210&gt; 658

&lt;211&gt; 980

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g507 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 658

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atggagcaaa ggaaaaatgt gactgagttt gtccttgtgg ggctcactca gagccccag      60
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tagacttact ctatgagaag aaaaccattt cgttccaagc ttgattaccc agatttttat      300
aggacaccta tttgggggtg ctgagatttt actccttgtt gtcatggcct atgatggcta      360
cgtgaccatc tgcaaaccac tgcattattt gaccatcatg aaccaacggg tgtgcattct      420
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cctccaggaa agccatttgt

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&lt;210&gt; 659

&lt;211&gt; 917

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g508 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 659

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atgaatctta aaaatggatc tctagtgacc gagtttattt tactaggatt ttttggacga      60
tgggaacttc aaattttctt ctttgtgaca ttttccctga tctacgggtg tactgtggtg      120
ggaaacattc tcattatggt cacagtgaca tgtagtctga cccttcattc tcccttgtag      180
tttctccttg gaaatctctc ttttttggac atgtgtctct ccactgccac aacacccaag      240
atgatcacia gaccatctct gtgtggggct gcgtgaccca gaagttcttc atgcacttct      300
ttgggagtgc tgagatgact cttctgataa tcatggcctt tgacagggtat gtagccatat      360
gtaaaccctt gcactatagg acaatcatga gccacaagct gctaaagggg tttgcgatac      420
tttcatggat aattggtttt ttacactcca taagccagat agttttaaca atgaacttgc      480
ctttctgtgg ccacaatgtc ataaacaaca tattttgtga tcttcccctt gtgatcaagc      540
ttgcttgcat tgaaacatac accctggaat tatttgtcat tgctgacagc gggctgtctc      600
ctttcacctg tttcatcctc ttgcttggtt cttacattgt catcctgggtc agtgtaccaa      660
aaaaatcatc acatgggctc tccaaggcgc tgtccacatt gtctgccac atcattgtgg      720
tactctgtt ctttggacct tgtattttta tctatgtttg gccattcagt agtttggcaa      780
gcaataaaac tcttgctgta ttttatacag ttatcacacc gttactgaat ccgagtattt      840
ataccctgag aaataagaaa atgcaagagg ccataagaaa attacggttc caatatgtta      900
gttctgcaca gaatttc

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&lt;210&gt; 660

&lt;211&gt; 1008

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g509 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 660

tctacagacc	cacagaatct	aacagatgtc	tctatatcc	tcctcctaga	acctcagagg	60
atccagaatg	acagccgggc	ctcgctgggc	tggttcctgtc	catgtgcctg	gtcacgggtgc	120
tggggaacct	gctcatcatc	ctggccgtca	gccctgactc	ccacctccac	acccccatgt	180
acatcttctt	ctccaacctg	tccttgctg	acatcggttt	caacctccacc	acgggtcccca	240
agatgactgt	ggacatccag	tctcacagca	gagtcattctc	ctatgcaggc	tgccctgactc	300
agatgtctct	ctttgccatt	tttggaggca	tggaagagag	acatgttcct	gagtgtgatg	360
gcctatgacc	ggtttgtagc	catctgtcac	cctctatatac	attcagccat	catgaacccg	420
tgtttctgtg	gctttctagt	tttgttgtct	tttttttttt	ctctcagtct	tttagacgtc	480
cagctgcgca	acttgattgc	cttacaaatg	acctgcttca	aggatgtgga	aattcctaata	540
ttcttctgtg	acccttctca	actcccccat	cttgcattgt	gtgacacctt	caccaataaac	600
ataatcctgt	atttccttgc	tgccatattt	ggttttcttc	ccatcttggg	gaccttttcc	660
tcctactata	aaatcgtttt	ctccattctg	agggtttcat	catctgggtg	gaagtataag	720
gccttctcca	cctgtgtgtc	tcacctgtca	gtgggttgc	gatttttatg	aacaggcggt	780
ggaggggtacc	tcagttcaga	tgtgtcatct	tcctcgagaa	aggctgcagt	ggcctcagtg	840
atgtacacgg	tggtcacccc	catgctgaac	cccttcatct	acagcctgag	aaacagggat	900
attaaaagt	tcctgcggcg	gccgcacagc	agcacggtct	aatcttgata	tcttcttatac	960
tgttccattc	ctttttagt	gtgggttaaa	aaaggcagca	aggtcaaa		1008

&lt;210&gt; 661

&lt;211&gt; 957

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g510 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 661

atgatggaaa	tagccaatgt	gagttctcca	gaagtctttg	tcctcctggg	cttctccaca	60
cgacctcac	tagaaactgt	cctcttcata	gttgtcttga	gtttttacat	ggtatcgatc	120
ttgggcaatg	gcatcatcat	tctgggtctcc	catacagatg	tgcacctcca	cacacctatg	180
tacttctttc	ttgccaacct	ccccttctctg	gacatgagct	tcaccacgag	cattgtccca	240
cagctcctgg	ctaacctctg	gggaccacag	aaaaccataa	gctatggagg	gtgtgtgggtc	300
cagttctata	tctcccattg	gctggggggca	accgagtgtg	tcctgctggc	caccatgtcc	360
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tacctggcca	gctttgtctt	tgttgtctctg	cctctggggc	tcctcctggg	ctcttacggc	660
cacattgccc	gggcccgtgt	gaagatcagg	tcagcagaag	ggcggagaaa	ggcattcaac	720
acctgttctt	cccacgtggc	tgtgggtgtct	ctgtttttag	ggagcatcat	cttcatgtat	780
ctccagccag	ccaagagcac	ctcccatgag	cagggcaagt	tcatagctct	gttctacacc	840
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gccctccggc	acatgggtatt	agagaactgc	tgtgggtctg	caggcaagct	ggcgcaa	957

&lt;210&gt; 662

&lt;211&gt; 912

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g511 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 662

atggaaagag	caaaccattc	agtgggtatcg	gaatttattt	tgttgggact	ttccaaatct	60
caaaatcttc	agatttttatt	cttcttgagg	ttctctgtgg	tcttcgtggg	gattgtgtta	120
ggaaacctgc	tcattcttgg	gactgtgacc	tttgattcgc	tccttcacac	accaatgtat	180
tttctgctta	gcaacctctc	ctgcattgat	atgatcctgg	cttcttttgc	tacctctaag	240
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gacaggtatg	ttgccatag	caaaccctc	cattacatga	ccatcatgag	cccacgggtg	420
ctcactgggc	tactgttata	ctcctatgca	gttggatttg	tgcactcatc	tagtcaaatg	480

gctttcatgt	tgactttgcc	cttctgtggt	cccaatgtta	tagacagctt	tttctgtgac	540
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gctgacagt	ggctcctgtc	actggctctg	ttcctcctct	tgcttgtctc	ctatggagtc	660
ataatattct	cagttaggta	ccgtgctgct	agtcgatcc	ctaaggcttt	ctccactctc	720
tcagctcaca	tcacagttgt	gactctgttc	tttgctccgt	gtgtctttat	ctacgtctgg	780
cccttcagca	gatactcggg	agataaaatt	ctttctgtgt	tttacacaat	tttcacacct	840
ctcttaaate	ctattattta	tacattaaga	aatcaagagg	taaaagcagc	cattaaaaaa	900
agactctgca	ta					912

&lt;210&gt; 663

&lt;211&gt; 963

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g512 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 663

atgggtcaatt	tgacttcaat	gagtggattc	cttcttatgg	ggttttctga	tgagcgtaag	60
cttcagattt	tacatgcatt	ggtatttctg	gtgacatacc	tgctggcctt	gacaggcaac	120
ctcctcatta	tcaccatcat	taccgtggac	cgctgtctcc	attcccccat	gtattacttt	180
ttaaagcacc	tctctcttct	ggacctctgc	ttcatctctg	tcacagtecc	ccagtccatt	240
gcaaattcac	ttatgggcaa	cggttacatt	tctcttggtc	agtgcattct	tcagggtttc	300
ttcttcatag	ctctggcctc	atcagaagt	gccattctca	cagtgatgtc	ttatgacagg	360
tacgcagcaa	tctgtcaacc	acttcattat	gagactatta	tggatccccg	tgctgttagg	420
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cagatgctga	aactagcctg	ttcttatgaa	ttcattaatg	agattgcact	ggctgcattc	600
acaacgtctg	cagcatttat	ctgtttgatc	tccattgtgc	tctcctacat	tcgcactctc	660
tctacagtgc	tgagaatccc	atcagctgag	ggccggacca	aggctctctc	cacctgccta	720
ccacacctat	ttgtagccac	cttctttctt	tcagctgcag	gctttgagtt	tctcagactg	780
ccttctgatt	cctcatcgac	tgtggacctt	gtattctcog	tattctatac	tgtgatacct	840
ccaacactca	atccagtcac	ttatagctta	cggaaatgatt	ccatgaaggc	agcactgagg	900
aagatgctgt	caaaggaaga	gcttcctcag	agaaaaatgt	gcttaaaagc	catgtttaaa	960
ctc						963

&lt;210&gt; 664

&lt;211&gt; 930

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g513 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 664

atggaccac	agaactattc	cttgggtgtca	gaatttgtgt	tgcatggact	ctgcacttca	60
cgacatcttc	aaaatttttt	ctttatatatt	ttctttgggg	tctatgtggc	cattatgctg	120
ggtaaccttc	tcattttggg	cactgtaatt	tctgatccct	gcctgcactc	ctccccatg	180
tacttctctg	tggggaacct	agctttcctg	gacatgtggc	tggcctcatt	tgccactccc	240
aagatgatca	gggatttcc	tagtgatcaa	aaactcatct	cctttggagg	atgtatggct	300
caaactcttct	tcttgcactt	tactgggtggg	gctgagatgg	tgctcctggt	ttccatggcc	360
tatgacagat	atgtggccat	atgcaaacc	ttgcattaca	tgactttgat	gagttggcag	420
acttgcata	ggctgggtgt	ggcttcatgt	gtcgttggat	ttgtgcactc	catcagtcaa	480
gtggctttca	ctgtaaattt	gccttactgt	ggccccaatg	aggtagacag	cttcttctgt	540
gacctccctc	tgggtgatcaa	acttgcctgc	atggacacct	atgtcttggg	tataattatg	600
atctcagaca	gtgggttget	ttccttgagc	tgttttctgc	tcctcctgat	ctcctacacc	660
gtgatccctc	tcgctatcag	acagcgtgct	gccggttagca	catccaaagc	actctccact	720
tgtcttgca	atatcatggg	agtgacgctg	ttctttggcc	cttgcatttt	tgtttatgtg	780
cggcctttca	gtaggttctc	tgtggacaag	ctgctgtctg	tgttttatac	catttttact	840
ccactcctga	acccatttat	ctacacattg	agaaatgagg	agatgaaagc	agctatgaag	900
aaactgcaaa	accgacgggt	gacttttcaa				930

<210> 665  
 <211> 957  
 <212> DNA  
 <213> Unknown (H38g514 nucleotide)

<220>  
 <223> Synthetic construct

<400> 665

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aatgaattgc	agtttttact	attcaccatc	ttctttctga	cttatttctg	tactttggga	120
ggaaatatat	taattatctt	gacgactgtg	actgatccac	acctgcatac	acctatgtat	180
tattttctag	ggaacttggc	ctttattgac	atctgctaca	ccaccagcaa	tgtccccag	240
atgatggtgc	acctcctctc	aaagaaaaaa	agcatttctt	atgtgggggtg	tgtgggttcaa	300
ctttttgcat	ttgttttctt	tgtaggatca	gagtgtctcc	tactggcagc	aatggcatat	360
gatcgttaca	ttgcaatctg	caatccttta	aggtattcag	ttattctgag	caaggttcta	420
tgcaatcaat	tagcagcctc	atgctgggct	gctgggttcc	ttaaactcagt	gggtgcataca	480
gtgttgacat	tctgcctgcc	cttctgtggc	aacaatcaga	tttaattactt	cttctgtgac	540
atccccctt	tgtgatctt	gtcttgtgga	aacacttctg	tcaatgagtt	ggcactgcta	600
tccactgggg	tcttcattgg	ttggactcct	ttcctttgta	tcgtactttc	ctacatttgc	660
ataatctcca	ccatcttgag	gatccagtc	tcagagggaa	gacgaaaagc	cttttctaca	720
tgtgcctccc	acctggccat	tgtctttctc	ttttatggca	gcgccatctt	tacatatgta	780
cggcccatct	caacttactc	attaaagaaa	gatagggttg	tttcagtgtt	gtacagtgtt	840
gttaccacca	tgctaaaccc	tataatttac	acattgagga	ataaggacat	caaagaagct	900
gtcaaaacta	tagggagcaa	gtggcagcca	ccaatttctt	ctttggatag	taaactc	957

<210> 666  
 <211> 910  
 <212> DNA  
 <213> Unknown (H38g515 nucleotide)

<220>  
 <223> Synthetic construct

<400> 666

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gtactatttc	ttttcttcta	tatgtccatt	tgggttggca	atgtcctcat	catggtcaca	120
gtagcatctg	ataaatacct	gaattcatca	cccatgtatt	tccttcttgg	caacctctca	180
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ggggcagctg	agatgttctt	gctcacagtg	atggcgtagc	atcgctatgt	tgcaatctgt	360
cgcccgctgc	actacaccac	tgtcatgagt	cgggggttat	gctgtgtgtt	ggttgctgcc	420
tcttggtatg	gaggattttg	gcactccact	gtccagacca	ttctcactgt	ccatctaccc	480
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tgcttgtgct	gacacttttg	tcattgaatt	gctcatggta	tctaacagtg	ggttgatctc	600
caccatctcc	tttgtgggtg	tgatttcctc	ctacaccact	atcctagtca	agattcgctc	660
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gttttttggg	ccctgtatatt	tcattctacg	tcgtcctttc	tctacatttt	ctgtggacaa	780
gatggtgtct	gtactctaca	atgttattac	cccaatgcta	aacccccctc	tctacacact	840
tcggaacaaa	gaggtaaagt	cagccatgca	gaagctctgg	gtcagaaatg	ggcttacttg	900
gaaaaagcag						910

<210> 667  
 <211> 945  
 <212> DNA  
 <213> Unknown (H38g516 nucleotide)

<220>  
 <223> Synthetic construct

&lt;400&gt; 667

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ctgcagcctt	tcttcttttg	gattttctta	atcatttacc	tgataaaactt	gattggaaat	120
ggatctatat	tggtgatggt	tgttttggaa	ccacaactcc	actccccctat	gtattttttt	180
ctgggaaacc	tttcttgct	ggatatttct	tattcttcag	tgacactgcc	caagctgctc	240
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ttcttccact	ttttgggaag	cacagaggcc	attttactgg	ctatcatggc	ctttgaccgt	360
tttgttgcca	tctgcaatcc	tcttcgctac	actgtcatca	tgaaccccca	ggtgtgtatt	420
ctgttgccag	ctgcggcctg	gctcatcagc	ttcttttacg	ctctgatgca	ttctgtcatg	480
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ccgctcttag	aattggcctg	tagtgacaca	ttactcaatc	aatggcttct	ttccattgtc	600
acaggcagca	tatccatggg	agctttcttt	ctgactcttc	tctcctgctt	ctatgtaatt	660
ggcttccttc	tgtttaagaa	caggtcctgc	agaatactcc	acaaggctct	gtccacttgt	720
gcctcccat	ttatgggtgt	atgtcttttc	tatggacctg	tgggcttcac	atatattcgt	780
cctgtctcag	ccacctccat	gattcaggac	cggataatgg	ccatcatgta	tagcgccgtc	840
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aagaaaatct	ttggtaggaa	gttgtttaaa	gactggcagc	aacac		945

&lt;210&gt; 668

&lt;211&gt; 966

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g517 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 668

atgaatgaga	caaatcattc	tccgggtgaca	gaatttgtgt	tgctgggact	gtctagttca	60
aggagactcc	aacctttctt	gtttcttaca	ttttcactac	tttatctage	aattctgttg	120
ggcaactttc	tcacatcct	cactgtgacc	tcagattccc	gccttcacac	ccccatgtac	180
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attttctttg	ttcatctctt	cactggcagt	gaaatgggtgc	tcctagtttc	catggcctat	360
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attttaaacc	ctgtaatcta	cacgctaaga	aacaaagaag	tgaaggcagc	tatgtcaaaa	900
ctgaagagtc	ggtatctgaa	gcctagtcag	gtttctgtag	tcataagaaa	tgttcttttc	960
ctagaa						966

&lt;210&gt; 669

&lt;211&gt; 594

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g518 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;221&gt; misc\_feature

&lt;222&gt; (1)...(594)

&lt;223&gt; n = A,T,C or G

&lt;400&gt; 669

gnnccgctac	tactacccat	gtactgtttc	ctgnctatac	tgtccgccac	tgacctcggc	60
ctgtccatat	ccactctggt	caccatgctg	agtatattct	ggttcaatgt	gagggaaatc	120
agctttaatg	cctgcttgtc	ccacatgttc	tttattaaat	tcttcaactgt	catggaatcc	180

tcagtgtgt	tggccatggc	ttttgatcgt	tttgtggccg	tctctaatacc	ccttaggtat	240
gccatgattt	taactgactc	cagaatagct	caaattggag	tggcaagtgt	catcaggggg	300
ctcctaagtc	tgacaccaat	ggtagcactt	cttataagac	tttcctactg	ccacagcccc	360
agtactccac	cactcctact	gctaccaccc	tgatgtgatg	aagttctcat	gcacagacgc	420
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aagagaggaa	ggaaaccctt	cagtacatgt	gtctcccaca	ttgggggctt	ttgc	594

&lt;210&gt; 670

&lt;211&gt; 939

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g519 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 670

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ccagagcagc	aggctgtgtt	cttcacccctg	ttcctgggca	tgtacctgac	cacgggtgctg	120
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atgtattttt	ttatatTTTT	tactgacctg	gacagcttcc	ttattacatc	aatggcatat	360
gaccgatatg	ttgccatag	tcaccctctc	cactacactg	tcacatgag	ggaagagctc	420
tgtgtcttct	tagtggtgtg	atcttggatt	ctgtcttgtg	ccagctccct	ctctcacacc	480
cttctcctga	cccggtctgc	tttctgtgct	gcgaacacca	tccccatgt	cttctgtgac	540
cttgctgccc	tgctcaagct	gtcctgctca	gatattcttc	tcaatgagct	ggctcatgtt	600
acagtagggg	tggtgggtcat	taccctgcca	ttcatgtgta	tcctgggtatc	atatgggtac	660
attggggcca	ccatcctgag	ggctccctca	accaaaggga	tccacaaagc	attgtccaca	720
tgtggctccc	atctctctgt	gggtgtctct	tattatgggt	caatatttgg	ccagtacctt	780
ttcccgactg	taagcagttc	tattgacaag	gatgtcattg	tggtctctcat	gtacacgggtg	840
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cttgggaaac	tcttcagtag	agcaacattt	ttctcttgg			939

&lt;210&gt; 671

&lt;211&gt; 586

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g520 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 671

ckactactac	tacctatgta	tttttttctk	kgcaacctgt	cactgttaga	tctctgcctt	60
ccttcaatcc	ctgtgcccaa	gatgtgcag	aatttattaa	ctcaaaggta	aaccatctct	120
atgtggtact	gcattgtcca	gagtttcttt	ctcatattct	ctgggagcac	agaagcctgc	180
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ctaaactcct	tgacaaagaa	tcttttcatt	tacaacttac	acttctgtgg	ccccagtgtc	360
atccctcact	tctgtctgta	gctgccttca	ctcttccctc	tctcttgat	tgatccagct	420
gccagtgagg	tccttctctg	tggtgcattg	acattgctag	gatttgtgac	ttgccgctgg	480
tcctcttttc	ttactctaac	accatctctg	cctcctagcc	atttgktttt	ctgagggtca	540
aggcaaagcc	ttctccacct	gctcctccca	cctcaccgtg	gtgctt		586

&lt;210&gt; 672

&lt;211&gt; 918

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g521 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 672

atgagccctg	agaaccagag	cagcgtgtcc	gagttcctcc	tectgggcct	ccccatccgg	60
ccagagcagc	aggccgtgtt	cttcgccctg	ttcctgggca	tgtacctgac	cacgggtgctg	120
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tgtgtcatgc	tgggtgctgg	gtcctgggtc	atcgcttggtg	cgtgtgctct	tttgcatacc	480
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cttgggtgcc	tgctcaagtt	gtcctgctca	gacacctccc	tcaatcagtt	agcaatcttt	600
acagcagcat	tgacagccat	tatgcttcca	ttcctgtgca	tcctgggttc	ttatggtcac	660
attgggtcca	ccatctcca	gattccctct	accaagggca	tatgcaaagc	cttgtccact	720
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cttcccccat	ccagcaaac	caatgacaag	aacataattg	cttcagtgat	atacacagca	840
gtcactccca	tgttgaaccc	attcattttac	agtctgagaa	ataaagacat	taagggagcc	900
ctaagaaaac	tcttgagt					918

&lt;210&gt; 673

&lt;211&gt; 591

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g522 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 673

ctactactac	cyatgtat	ttttcttggc	aacctstccc	tcattggacat	ctggggcacc	60
tcctcctttg	tgctctcat	rtagacaat	ttcctggaaa	cccagaggac	catttccttc	120
cctggctgtg	ccctgcagat	gtacctgacc	ctggcgctgg	gatcaacgga	gtgectgctg	180
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aactcactgc	tacagtccat	ccttgtctgg	cacctcccc	tctgtggcca	cgcatcaac	360
tacttctatg	agatcttggc	agtgtcaaaa	ctggcctgtg	gggacatctc	cctcaatgcy	420
ctggcattaa	tgggtggccac	agccgtcctg	acactggccc	ccctcttgct	catctgcctg	480
tcttaccttt	tcactcctgtc	tgccatcctt	agggtaccct	ctgctgcagg	ccggtgcaaa	540
gccttctcca	cctgctcagc	ccaccgcaca	gtgggtggtg	ttttttatgg	g	591

&lt;210&gt; 674

&lt;211&gt; 985

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g523 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 674

gttaatggat	ggagtaataa	atcagtgggt	actgaattca	atgtgttggg	gctgtctagc	60
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aagatgattg	cagacttcct	caacgaacac	aagaccacca	ctttccaggg	atgcatgtca	300
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ctgtctgccc	acattactgt	tgtgcttctc	ttctttggcc	cattaatatt	catctatatt	780

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tcctctcctt aaccccatga tttatactct gaggaataaa gatataaagg aagccatgag	900
gaagctaagg agatgacatg tgggttccaa gcagggtttt tagacaacta caaagaagta	960
atacaaattc ctacttttgg gcttt	985

&lt;210&gt; 675

&lt;211&gt; 780

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g524 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;221&gt; misc\_feature

&lt;222&gt; (1)...(780)

&lt;223&gt; n = A,T,C or G

&lt;400&gt; 675

atgtatttct tcttgagttt tttgtctctc actgatattt gctttacaac aagcgttgtc	60
cccaagatgc tgatgaactt cctgtcagaa aagaagacca tctcctatgc tgggtgtctg	120
acacagtatg tattttctct atgccttggg caacagtgac agctgccttc ttctgtaant	180
gcctttgacc gctatgttgc cgtctgtgac cctttccact atgtcaccac catgagccac	240
caccactgtg ttctgctggt ggccttctcc tgctcattta cttaccttca ctcactcctg	300
cacacacttc tgctgaatcg tctcaccttc tgtgactcca atgttatcca ccactttctc	360
tgtgacctca gccctgtgct gaaattgtcc tgctcttcca tatttgtcaa tgaaattgtg	420
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ggcctgagga agcttatgag caagagatcc taggaagcac cctcttgaaa aactcgtaag	780

&lt;210&gt; 676

&lt;211&gt; 576

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g525 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 676

tactactact accctatgta tttttttctt tgcaacctgt ccttcctgga catgagcttc	60
accacgagca ttgtcccaca gctcctggct aacctctggg gaccacagaa aaccataagc	120
tatggagggt gtgtgggtcca gttctatata tccattggc tgggggcaac cgagtgtgtc	180
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catcctggtc tcttacggcc acattgccgg gccgkgttga agaacaagtc agcagaaggg	540
cggagaaagg cattcaacac ctgttctttc cacgtg	576

&lt;210&gt; 677

&lt;211&gt; 929

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g526 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 677

atggatataa	gaaacagctc	aataataatc	tgagtttgtt	ttgttagaat	tcatacagcac	60
ttgggaactt	gaaattttgt	ttcttaaata	ttttgttgg	cctatgcagc	aatcatggca	120
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cactcatggg	ctctgtgctg	ctatcacggg	ctgttggttt	tgtgcatact	ataagccaga	480
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tgtctgctca	tatcactgca	gtcactctat	ttttatgagc	catgtgtcta	catttacact	780
tggccattta	ggagcttttc	agtggataca	tttctttctg	tgttttattc	agttacaccc	840
ttactgaacc	ccattactta	cagtctgaga	tgaaagcatt	tatacatcaa	ctgaggaccc	900
aacacatcat	ctccagacaa	accttctct				929

&lt;210&gt; 678

&lt;211&gt; 595

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g527 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 678

ctactactac	ccatgtatct	ttttctgtgc	aacctgtccc	tggtggactt	tggttatctc	60
tcagctgtca	ctcccaagg	gatgggtggg	tttctcacag	gagacaaatt	catattatat	120
aatgcttggt	ccacacaatt	cttcttcttt	gtagccttta	tcactgcaga	aagtttcctc	180
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&lt;210&gt; 679

&lt;211&gt; 945

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g528 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 679

atggaggcca	tgaaactatt	aatcaatct	caagtgtcag	aattcatttt	gctgggactg	60
accagctccc	aggatgtaga	gtttcttctc	tttgccctct	tctcggttat	ctatgtggtc	120
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atcactccta	tcttgaatcc	aattatctat	actctgagaa	acaaagaaat	gaagatatcc	900

atgaaaaaac tctggagagc ttttgtgaat tctagagaag atact

945

<210> 680

<211> 951

<212> DNA

<213> Unknown (H38g529 nucleotide)

<220>

<223> Synthetic construct

<400> 680

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cttgaatggc	aggccctgct	ctttgtcatt	ttcctgctca	tctactgcct	gaccattata	120
gggaatgttg	tcatcatcac	cgtggtgagc	cagggcctgc	gactgcactc	ccctatgtac	180
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ctcctagcca	acctgctgtc	ctggggccaa	gccatctcct	tctctgcctg	catggcacag	300
ctctacttct	tctgatttct	cggcgccacc	gagtgtcttc	tcctggcctt	catggcctat	360
gaccgttacc	tggccatctg	cagccactc	cgctaccctt	ttctcatgca	tcgtgggcta	420
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gttagaaagg	tcatgagaag	gaaatgtggt	attctatgga	gt'acaagtaa	a	951

<210> 681

<211> 1005

<212> DNA

<213> Unknown (H38g530 nucleotide)

<220>

<223> Synthetic construct

<400> 681

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atccagaatg	gcagccggtc	ctcactgggc	tgtgcctgtc	catgtgcctg	gtcacgggtc	120
tggggaacct	gctcatcatc	ctggccgtca	gccctgactc	ccacctccac	atccccatgt	180
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atcatgtatt	tccttgccgc	catatttggt	tttcttccca	tctcggggac	gcttttctct	660
tacgataaaa	ttgttttctc	cattctaagg	gtttcatcat	caggtgggaa	gtataaggcc	720
ttctccacct	gtgggtctca	cctgtcagtt	gtttgctgat	tttatggaac	aggcattgga	780
ggctacctca	gttcagatgt	gtcatcttcc	ccgagaaagg	ctgcagtggc	ctcagtgatg	840
tacacggtgg	tcatccccat	gccgaacccc	ttcatctaca	gcctgagaaa	cagggatatt	900
aaaagtgtcc	tgcagcggcc	acatggcagc	acgatctcat	ctcaatatct	tcttatttgt	960
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<210> 682

<211> 990

<212> DNA

<213> Unknown (H38g531 nucleotide)

<220>

## &lt;223&gt; Synthetic construct

&lt;400&gt; 682

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gatccagaac	tgcagccggt	cctcgctggg	ctgtccctgt	ccatgtatct	ggtcacgggtg	120
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tacttcttcc	tctccaacct	gtgctgggct	gacatcgggt	tcaccttggc	catagttccc	240
aagatgactg	tgacatgca	gtctcatagc	agagtcactc	ctcatgcggg	ctgcctgaca	300
cagatgtctt	tcttggctct	ttttgcatgt	atagaagaca	tgttcctgac	tgtgatggcc	360
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tattttgata	gtactatgtt	tggttttctt	cccatttcaa	ggatcctttt	gtcttactat	660
aaaattgtcc	cctccattct	aaggatttca	tcgtcagatg	ggaagtataa	agccttcacc	720
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gtgggtcacc	ccatgctgaa	ccctttcatc	tacagcctga	gaaacaggga	cattcaaaac	900
accctgtgga	ggctgcgcag	cagaagagtg	gaatctcatg	atctgtttcca	tccttttttt	960
gtgtgggtga	gaaagggcaa	ccacattaaa				990

&lt;210&gt; 683

&lt;211&gt; 1005

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g532 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 683

tctacagacc	cacaaaatct	aatagatgtc	tttgtattcc	tcctcctgga	acctcagagg	60
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agacgtctct	ctttgccatt	tttggaggca	tgggaagagag	acatgctcct	gagtgtgatg	360
gtctatgacc	ggtttgtagc	catctgtcac	cctctatata	attcagccgt	catgaacccc	420
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gggtacctca	gttcagatgt	gtcatcttcc	ccgagaaagg	ctgcggtggc	ctcagtgatg	840
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aaaagtgtcc	tgcggcggcc	gcacggcagc	acggtgtaat	cttgatatct	tcttatctgt	960
tccattcctt	ttgtagtgtg	ggttaaaaaa	ggcagaaagg	tcaaa		1005

&lt;210&gt; 684

&lt;211&gt; 960

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g533 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 684

cacacagagc	cacggcatct	cacaggtgtc	tgagaattcc	tcctcctggg	actctcagag	60
gatccagaac	tgcagcctgt	cctcgctggg	ctgtccctgt	ccatgtatct	ggtcacagtg	120
ctaaggaacc	tgtcatcatc	cctggctgtg	agctctgact	ccccctcca	caccccatg	180
tacttcttcc	tctccaacct	gtgctgggct	gacatcagtt	tcacctcggc	cacggttccc	240

aagatgacgg	tggacatgca	gtcgcatagc	agagtcacat	cttatgcggg	ctgcctgaca	300
cggatgtctt	tcttcgtcct	ttttgcatgt	atagaagaca	tgctcctgac	tgtgatggcc	360
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ctctgtgtct	tcttagtttt	ggtgtccttt	ttccttagcc	tggtggattc	ccagctgcac	480
agttagattg	tgttacaatt	caccttcttc	aagaatgtgg	aaatctctca	ttttgtctgt	540
gagccatctc	aacttctcaa	ccttgccctg	tctgacagct	tcatcaatag	catattcatg	600
tatttcgata	gtactatggt	tggttttctt	cccatttcag	ggatcctttt	gtcttactat	660
aaaattgtcc	cctccattct	aaggatttca	tctgcagatg	ggaagtataa	agccttctcc	720
acctgtggct	ctcacctggc	agttgtttgc	ttattttatg	gaacaggcat	tggcgtgtac	780
ctgacttcag	ctgtggcacc	accccccagc	aatggtgtgg	tggcatcagt	gaagtacacc	840
gtggtcacc	ccatgctgaa	ccctttcatc	tacagcctga	gaaacaggga	cattcaaagc	900
accctgtgga	ggctgtgcag	cagaacagtt	aaatctcttg	atctgttcca	ttctttttct	960

&lt;210&gt; 685

&lt;211&gt; 982

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g534 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 685

atttcccttc	ttttctgggt	ccttctcttg	gtcattttcta	gagttttggg	agccatggca	60
tgaggaaaca	gcactgaagt	gactgaattc	tgtcttctgg	gatttggtgc	ctagcaagag	120
ttttgggtga	tcctcttcat	tatattcctt	ctcatctatg	tgacctccat	aatgggtaat	180
agtggataaa	tcttactcat	caacacagat	tccagatttc	aaacacccat	gtactttttt	240
ctacaacatt	tggcttttgt	tgatatctgt	tacatttctg	ctatcactcc	caagatgctc	300
caaagcttca	cggagaaaaa	gaatttgata	tcattttggg	gctgcatgat	acaattattg	360
gtttatgcaa	catttgcaac	cagtgcactgt	tatctcctgg	ctatgatagc	agtggaccat	420
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tcccacctga	ccacagttgc	cattttctat	gggacactct	cttacatgca	cttaccagtc	840
tcatttcta	aatcccagg	agaatatgaa	agtggcctct	atattttatg	gcactgttat	900
tcccatgttg	aatccttta	tctatagctt	gagaaataag	gaagtaaaag	aagctttaaa	960
attgataggg	aaaaagttct	tt				982

&lt;210&gt; 686

&lt;211&gt; 927

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g535 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 686

atgacactag	gaaacagcac	tgaagtcact	gaattctatc	ttctgggatt	tggtgcccag	60
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ttcttagttt	atgcaacatt	tgcaaccagt	gactgttatc	tcctgggctat	gatggcagtg	360
gaccccttat	ttgccatctg	taagccctt	cactatactg	taatcatgtc	ccgaacagtc	420
tgcacccgtt	tggtagctgg	ttcatacatc	atgggctcaa	taaatgcctc	tgtacaaaca	480
ggttttacat	gttcaactgtc	cttctgcaag	tccaatagca	tcaatcactt	tttctgtgat	540
gttcccccta	ttcttgctct	ttcatgtctc	aatgttgaca	tcaacatcat	gctacttggt	600
gtctttgtgg	gatctaactt	gatattcact	gggttggtcg	tcatcttttc	ctacatctac	660
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tgtgcttccc acctgaccgc agtcaccatt ttctatggga cactctctta catgtatttg 780
cagtctcatt ctaataattc ccaggaaaat atgaaagtgg cctttatatt ttatggcaca 840
gttattccca tgttaaattc tttaattctat agcttgagaa ataaggaagt aaaagaagct 900
ttaaaagtga tagggaaaaa gttatttt 927

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&lt;210&gt; 687

&lt;211&gt; 894

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g536 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 687

```

atgggtcgag gaaacagcac tgaagtgact gaattccatc ttctgggatt tgggtgtccaa 60
cacgaatttc agcatgtcct ttccattgta cttcttctta tctatgtgac ctccctgata 120
ggaaatattg gaatgatctt actcatcaag accgattcca gacttcaaac acccatgtac 180
ttttttccac aacatttggc ttttgttgat atctgttata cttctgctat cactcccaag 240
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ttcttagttt atgcaacatt tgcaaccagt gactgttacc tcttagctat tatggcaatg 360
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cagcctcagt ctaataattc tcaggagaat atgaaagtag cctctatatt ttatggcact 840
gttattccca tgttgaatcc tttaattctat agcttgagaa ataaggaagg aaaa 894

```

&lt;210&gt; 688

&lt;211&gt; 444

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g537 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 688

```

acgtacgacg gcgcgagggg ggtctctgta ttgtttctta caatacatgc aaatctacaa 60
tgatgtcaat aaaaattcaa ttaaaaatac atgtagtaaa aatagttgct aatctatgct 120
ggagtttact tgaatgtcac tatgtgatc gtcaccttca agtacacaca tatcttccat 180
catcctgagc ttgccctctg ctatgtgtct ttttcgcgag ttgtcttcca cctgacagct 240
gtcaccattt tctttggagc tctctcttac atggacttac aacctgaatc tactgtgttt 300
caagagcaag aaaagccagc atccatattt tgtggcatta tgactctcgt gttaaacttc 360
cttatctact gcctgtgaaa ttaggaagta aaagaagctc tacagttaac aaggaaaaag 420
tattaatata tgtagactga gggt 444

```

&lt;210&gt; 689

&lt;211&gt; 888

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g538 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 689

```

atgctagtgt cacaacagga gcagcctctt ctgtttggca tcttccttgg catgtacctg 60
gtcaccatgg tggggaacct gtcattatc ctggccatca gctctgacct acacctccat 120
actcccatgt acttctttct ggccaacctg tcattaactg atgcctgttt cacttctgcc 180
tccatcccca aaatgctggc caacattcat acccagagtc agatcatctc gtattctctg 240

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gccttctcta	cctgtgggtc	tcattctcacg	gtggttctgc	tcttctatgg	gtctcttatg	720
gggtgttatt	tacttctccc	atcaacttac	tctacagaga	gggaaagtag	ggctgctgtt	780
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atgaaggagg	ctttgggtaa	actttttgtc	agtggaaaaa	cattcttt		888

&lt;210&gt; 690

&lt;211&gt; 939

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g539 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 690

atgaagaggg	agaatcagag	cagtgtgtct	gagttcctcc	tcctggacct	ccccatctgg	60
ccagagcagc	aggctgtgtt	cttcaccctg	ttcttgggca	tgtacctgat	cacgggtgctg	120
gggaacctgc	tcattatcct	gtcatccgg	ctggactctc	accttcacac	ccccatgttc	180
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ctccctcat	ccagtgcctc	cagtgacaag	gacgtaattg	cctctgtgat	gtacacgggtg	840
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ctggagagac	tcttcaacag	ggcaacagtc	ttatctcaa			939

&lt;210&gt; 691

&lt;211&gt; 933

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g540 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 691

atggaaaacc	aatccagcat	ttctgaattt	ttctcccgag	gaatatcagc	gcctccagag	60
caacagcagt	ccctcttcgg	aattttcctg	tgtatgtatc	ttgtcacctt	gactgggaac	120
ctgctcatca	tcttgcccat	tggtcttgac	ctgcacctcc	acacccccat	gtactttttc	180
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cccatgttga acccctttat ctatagccta aggaacaagg acatgaaggg ggcctaaag 900  
aggctcttca gtcacaggag tattgtttcc tct 933

<210> 692

<211> 945

<212> DNA

<213> Unknown (H38g541 nucleotide)

<220>

<223> Synthetic construct

<400> 692

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gcactggcga ttctcctctg tggactcttc tctgtcttct atacactcac cctgctgggg	120
aatgggggtca tctttgggat tatctgcctg gactctaagc ttcacacacc catgtacttc	180
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ttggcaaacc taatgaacca gaaaagcacc atctcctttg ttccatgcat aatgcagact	300
tttttgattt tggcttttgc tgttacagag tgcctgattt tgggtggtgat gtcctatgat	360
aggatatgtg ccatctgcca ccttttccag tacactgtca tcatgagctg gagagtgtgc	420
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ttcaaccgga tgctgaacce cttgatctac agcctgagga acgcagaggt caaggggtgcc	900
ctgaaaagag tgttgtggaa acagagatca aagtgagggg tgcca	945

<210> 693

<211> 575

<212> DNA

<213> Unknown (H38g542 nucleotide)

<220>

<223> Synthetic construct

<400> 693

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gctagaaact agttttgccc tgcagcgacc cctctgtggg aatctcattg atgacaagtg	180
aaattctgga agtgctaaag ttagtttgct caagttcact gctcatggat atgatcatga	240
tgggtgggtca acattcttct cttgccaatt aatcttccaa gggagtttag tttctgcatt	300
gtaatcttat ttttaaagag atcttatggt aatcttccaa gggagtttag tttctgcatt	360
tcctggatat atgggttttc gtatattgcc tggctataat ttttagagct ctttacaac	420
tcacaaagat atggggctca acaatgaatg aaattgtacg gtggatgtat tagtattaaa	480
cgtattagta ttaaattgtg tgacataaac tggctcttaa atataatcac aaattagtat	540
ctacaatgct tcaagcattg ttgtcctttt tgaaa	575

<210> 694

<211> 942

<212> DNA

<213> Unknown (H38g543 nucleotide)

<220>

<223> Synthetic construct

<400> 694

atggctgaag aaaatcatac catgaaaaat gagtttatcc tcacaggatt tacagatcac	60
cctgagctga agactctgct gtttgtgggt ttctttgcca tctatctgat caccgtgggtg	120
gggaatatta gtttgggtggc actgatattt acacaccgtc ggcttcacac accaatgtac	180

atctttctgg	gaaatctggc	tcttgtggat	tcttgcctgtg	cctgtgctat	tacccccaaa	240
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ttttattttc	tttgcactgt	ggaaactgca	gactgctttc	ttctggcagc	aatggcctat	360
gaccgctatg	tggccatagt	caacccactg	cagtaccaca	tcatgatgtc	caagaaactc	420
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gtagttccct	tactaaatcc	tttcatttat	agcctgagaa	ataggggaagt	aataagtgtc	900
ttaagaaaaa	ttctgatgaa	agaaataatc	tcaagaagat	gg		942

&lt;210&gt; 695

&lt;211&gt; 948

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g544 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 695

atgcaaggag	aaaacttcac	catttggagc	atttttttct	tggagggtt	ttcccagtag	60
ccagggttag	aagtggttct	cttcgtcttc	agccttgtaa	tgtatctgac	aacgctcttg	120
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aagaaattgc	tgggcaaaat	aacattgcat	caaacacacg	aacatctc		948

&lt;210&gt; 696

&lt;211&gt; 936

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g545 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 696

atgatgggta	gaaggaataa	cacaaatgtg	gctgacttca	tccttatggg	actgacactt	60
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ctgggggaat	tggggatgat	attgataatc	cgccctggacc	tccagcttca	cactcccatg	180
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aaaaccttag	cgaacttact	gacttccaac	tatatctcct	ttacgggctg	ctttgcccag	300
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acttcccaa	ttttagctct	gtcctgcact	gatacatata	acaccgaaat	cctgatattc	600
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attctcttta	ccatcctgaa	aattaattcc	acttcaggaa	agcagaaagc	tttctctact	720

tgcgctctctc atctcttggg agtcaccatc ttttatagca ctctgatttt tactttattta	780
aaaccaagaa agtccttattc cttgggaaga gatcaagtgg cttctgtttt ttatactatt	840
gtgattcccg tgctgaatcc actcatttat agtccttagaa acaaagaggt gaaaaatgct	900
gtcatcagag tcatgcagag aagacaggac tccagg	936

&lt;210&gt; 697

&lt;211&gt; 634

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g546 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 697

acaatgttct ataaaaattag tgctttgttc taatgttttg taccacttta ttttagtaaa	60
aattgagtaa gcaaaaaata tactgggttc tgactatctt tggcttttta gaggcattca	120
ttgccatgaa taaattataa aagttatata gttctctaata atgtttatat ttataaatat	180
gaatatttag ttctctaata tgtttatatt ttataaatatg aatatttctg tacattattt	240
cctaaaatgt atttttttct tttgtatctg ttgtcttttag ctattaattt ttgatagttt	300
ttctacccat cctcctcttc cctacttta agaggcagat atctgtgcaa attcctagcc	360
atgtacact aatactacag cttcctgatg acactttttac attatcctca acttttgcct	420
ctcttattga ccctctgtat catcgatgct ctatggaaga ctgttcctta tgtacttaat	480
gctcagaaaa ttctcttgac acagacagga tggcctctgt cttctacaca gtagtcattc	540
ccatgttaaa ccattgatc tggagcccca ggaacaagga tgtgacattg ccctgaggaa	600
agtcatggtc aatagaaaac aggcattatt ttgc	634

&lt;210&gt; 698

&lt;211&gt; 682

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g547 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 698

tgcatgttct ccttttattt taatttttac cttttttttt cccacatgaa aggtcttgca	60
gtcacttaga aatgctgaga taaattgact ggtataaagt aaggtatctg attaatgaaa	120
tttactctaa aactaattgg ccttttcatg gactataaga ctatgcacaa ccacttcgta	180
ctcaaacatg caattctctt tccaatgttg tatgaccag taccagctc ttcaaagcac	240
attttttttt cttggtagat ctcaggtctt ccttctgttg ctgatggcct agacaactat	300
agggccatct gaaagtcctt gcagtatttg gttgtcatga agcaatggct gtgtgtgtgtg	360
ctgctggtgg tgccctgggc tggaggattt ttgcacacag taattcaact tggccttatt	420
catgggctcc catcttatga cccaatgtc attggtcggt ttgtctgtga catggacccc	480
ttaatgaagc ttgtctgtga ctatacactc aacagatttg tctattttgc aggtcatgac	540
ttaaatacta ggttttatat atttcgttta tattcagact ggactgttc cttttggtga	600
tttgactttg gtatcctttt gtaatttttt ccctagagga catgattcta taaatcttgt	660
tatacatagt tattatccct gt	682

&lt;210&gt; 699

&lt;211&gt; 897

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g548 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 699

atggagccaa ggaaaaatgt gactgacttt gtcctcttgg gcttcacaca gaatccaaag	60
gagcagaaag tactttttgt tatgttcttg ctcttctaca ttttgaccat ggtgggcaac	120
ctgctcattg tagtgaccgt aactgtcagt gagaccctgg gtcaccaat gtccttcttt	180
cttgctggct taacatttat agatatcatt tattcttcat ccatttcccc cagattgatt	240

tcagacttgt	tctttgggaa	taattccata	tccttccaat	ctttcatggc	ccagctcttt	300
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tatgtggcca	tctgtaagcc	cttgcatat	ttggttatca	tgagacaatg	ggtgtgtgtt	420
ttgctgctgg	tagtgtcctg	ggttggagga	tttctgcaat	cagtatttca	acttagcatt	480
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ggaggactgt	cttgcaactat	tgcgtttctg	ctcttactca	tctcttatgg	tgtcatcctg	660
cactctctaa	agaaacttag	tcagaaaggg	aggcaaaaag	cccactcaac	ctgcagttcc	720
cacatcactg	tggttgtctt	cttctttgtt	ccttgtattt	ttatgtgtgc	tagacctgct	780
aggaccttct	ccattgacaa	atcagtgagt	gtgttttata	cagtcataac	cccaatgctg	840
aaccccttaa	tctacactct	gagaaattct	gagatgacaa	gtgctatgaa	gaagctt	897

&lt;210&gt; 700

&lt;211&gt; 945

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g549 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 700

atgagtcctg	atgggaacca	cagtagtgat	ccaacagagt	tcgtcctggc	agggctccca	60
aatctcaaca	gcgcaagagt	ggaattat	tctgtgtttc	ttcttgtcta	tctcctgaat	120
ctgacaggca	atgtgttgat	tgtgggggtg	gtaagggctg	atactcgact	acagaccctt	180
atgtacttct	ttctgggtaa	cctgtcctgc	ctagagatac	tgctcacttc	tgtcatcatt	240
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gctgtgtgct	ttcgtgtggc	cttggcctgc	tgggtggggg	gactcgtccc	tgtgcttggt	480
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actgactttg	tctgcgcttc	cctcgtcatt	gtatcttctt	tgctgatac	tgctgtgtcc	660
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ctctatgtgc	ggccatcgca	gagtggttct	gtggacacta	actgggcagt	gacagtaata	840
acgacatttg	tgacaccact	gttgaatcca	ttcatctatg	ccttacgtaa	tgagcaagtc	900
aaggaagctt	tgaaggacat	gtttaggaag	gtagtggcag	gcgtt		945

&lt;210&gt; 701

&lt;211&gt; 772

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g550 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 701

gtactctgtg	tcatattttg	taaatgaaat	catcatataa	gtttattgag	tttttttgag	60
tacctaataga	cttaataaaa	aaaatatggg	agcatatgta	gtaccatgct	tgtatcaata	120
cggataaagt	atctggaagt	ctttgctgag	aatctttttg	tgctgctgag	attattccac	180
tgatgtggat	ggtccatggc	tgttatgtga	ccgtctgtac	tacatgacca	tcgtgaatca	240
atataggtgt	agccatctca	ctggaatggc	atgtactgaa	agctttatcc	aggcacagtt	300
tagatcctct	ccccagtcctg	acttccttcc	tatgacocca	atgcatagc	tcattcatgt	360
gtgacttaaa	cacttttttg	aaactcctct	gcatgggtac	tactaataca	attggtttct	420
ttgttgctgc	caatgggtggg	ttcaactacc	tgtaaacaat	cattttcttg	atggtttctt	480
aagtggccat	cctatgtact	ttgaaaactc	acagcttgga	ggaaagatgc	taaagttctc	540
tacctgcac	tctcacacca	ccatgggtcat	cttatctttg	agttctgtat	atctgtgtat	600
ctgtgcccag	tgacccttcc	ccaatcaata	aagcaatggc	tgtgtttcat	accgtgataa	660
atcctatgtt	aaaaccttta	gtctaaccct	cagaaatgca	gagggtgaaa	gtgctttgag	720
aaaggtctgg	gtcaaaaagt	gacctgaaga	gagaaataat	ctaaacataa	ga	772

<210> 702  
 <211> 954  
 <212> DNA  
 <213> Unknown (H38g551 nucleotide)

<220>  
 <223> Synthetic construct

<400> 702  
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 ccaagacttg agttactctt ttttgtgctc atcttcataa tgtatgtggg catccttctg 120  
 ggggaatggta ctctcatttt aatcagcatc ttggaccctc accttcacac ccctatgtac 180  
 ttcttttctgg ggaacctctc cttcttggac atctgtctaca ccaccacctc tattccctcc 240  
 acgctagtga gcttccttcc agaaaagaaag accatttccc ttcttggctg tgcagtgcag 300  
 atgttcctca gcttggccat ggggacaaca gagtgtgtgc ttctgggcgt gatggccttt 360  
 gaccgctatg tggctatctg caaccctctg agatatccca tcatcatgag taaggatgcc 420  
 tatgtaccca tggcagctgg gtcctggatc ataggagctg tcaattctgc agtacaaaca 480  
 gtgtttgtgg tacaattgcc tttctgcagg aataacatca tcaatcattt cacctgtgaa 540  
 attctagctg tcatgaaact ggcctgtgct gacatctcag gcaatgagtt catcctgctt 600  
 gtgaccacaa cattgttccct attgacacct ttgttattaa ttattgtctc ttacacgtta 660  
 atcattttga gcatcttcaa aattagctct tctggaggga gaagcaaacc ttctcttacc 720  
 tgctcagctc gtctgactgt ggtgataaca ttctgtggga ccattcttct catgtacatg 780  
 aagcccaagt ctcaagagac acttaattca gatgacttgg atgccactga caaacttata 840  
 ttcatattct acaggggtgat gactcccatg atgaatcctt taatctacag tcttagaaac 900  
 aaggatgtga aggaggcagt aaaacaccta ctgagaagaa aaaattttta caag 954

<210> 703  
 <211> 999  
 <212> DNA  
 <213> Unknown (H38g552 nucleotide)

<220>  
 <223> Synthetic construct

<400> 703  
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 agagctgaaa aattcctttt cgtgatgtgc ttagtgatgt acctggtgat tctcctaggt 120  
 aatggcacct tgateattct gacactcctg gatgctcgtc tccacacacc catgtacttc 180  
 ttccttggga atctttcctt cctagacatt tggtagacat cctcctccat cccctcaatg 240  
 ctgatacact tcctatcaga gaagaaaacc atctccttca ctagatgtgt gattcaaattg 300  
 tctgtctctt acactatggg atccaccgag tgtgtgcttc tagcagtgtg ggcataatgac 360  
 cgttatgtag ccactctgaa cctcttgaga tatcccatca tcatgggcaa ggcactttgt 420  
 attcagatgg ttgctgtctc ttggggacta ggcttttca actcattgac agaaactgtt 480  
 cttgcaatac gggtaccctt ctgtggaaaa aaatgtcatt aatcattttg ttgtgaaat 540  
 attggccttt gtcaagctgg cttgcacaga tacttccttg aatgagatta ttataatgtt 600  
 gggcaatgta atatttttgt tttctccatt actgctgatt tgtatctcct acatctttat 660  
 cctttctact gtactaagaa tcaattcagc tgaagggaagg aaaaaggcct tttccacctg 720  
 ctgagccac atgacagtgg tgattgtgtt ttatgggaca atcctcttca tgtacatgaa 780  
 ggcaaaagtc aaagactctg cttttgacaa actgattgcc ctgttctatg gcatagtcac 840  
 ccccatgctc aatcctatca tctatagcct gaggaatata gaggtgcatg gagctatgag 900  
 gaaattaatg agtagaccct gggtctggag gaaatgatga cacactgaca cctttgagtt 960  
 tatgcacaaa atacgctcac aagtttgaga caacacttt 999

<210> 704  
 <211> 966  
 <212> DNA  
 <213> Unknown (H38g553 nucleotide)

<220>  
 <223> Synthetic construct

&lt;400&gt; 704

cacacagagc	catggaatct	cacagatgtc	tgagaattcc	tcctcctggg	actctcagag	60
gatccagaac	tgcagccggt	cctcgctttg	ctctccctgt	ccctgtccat	gtgtctggtc	120
atgggtgctga	ggaacctgct	cagcatcctg	gctgtcagct	ctgtctctcc	cctccacacc	180
cccgtgtact	tcttcctctc	taaactgtgc	tgggctgaca	tcggtttcac	cttggccacg	240
gttcccaaga	tgattgtgga	catgcagtcg	catagcagag	tcattctctca	tgcgggctgt	300
ctgacgcaga	tgtctttctt	catccttttt	gcatgtatag	aaggcatgct	cctgacagtg	360
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ctgcacagtt	gaattgtgtt	acaattcaca	atcatcaaga	atgtggaaat	ctctaatttt	540
gtctgtgacc	cctctcaact	tctcaaactt	gcctgttctg	acagcgtcac	caatagcata	600
ttcatatatt	tcaatagtac	tatgtttggt	tttcttccca	tttcagggat	cctatggtct	660
tactgtaaaa	tcgtcccctc	cattctaagg	atttcatcat	cagatgggaa	gtataaagcc	720
ttctccacat	gtggctctca	cctagcagtt	gtttgctgat	tttatagaac	aggcattggc	780
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ttctctgtgg	tcacccccat	gctgaacctt	ttcatctaca	gcctgagaaa	cagggacata	900
caaagtgcc	tgcggaggct	gctcagcaga	acagtcgaat	cttatgatct	gttccatcct	960
ttttct						966

&lt;210&gt; 705

&lt;211&gt; 937

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g554 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 705

atggctgggg	aaaaccatac	tacaactgct	gaattcctcc	ttctgggatt	ctctgacctc	60
aaggccctgc	agggccccct	gttctgggtg	gtgcttctgg	tctacctggt	caccttgctg	120
ggtaactccc	tgatcatcct	cctcacacag	gtcagccctg	ccctgcactc	ccccatgtac	180
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accctggcca	atctgggctc	cccgcacccc	caggccatct	ctttccaggg	ctgtgcagcc	300
cagatgtacg	tcttcattgt	cctgggcac	tcggagtgt	gcctgctcac	ggccatggcc	360
tatgaccgat	atgttgccat	ctgccagccc	ctacgctatt	ccaccctctt	gagcccacgg	420
gcctgcattg	ccatgggtggg	tacctcctgg	ctcacaggca	tcatacaggc	caccacccat	480
gcctccctca	tcttctctct	accttttctg	agccaccgga	tcataccgca	ctttctctgt	540
gacatcctgc	cagtactgag	gctggcaagt	gctgggaagc	acaggagcga	gatctccgtg	600
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acctgctcct	cccatctgct	cggtgggtctc	tctcttcttt	ggaacagcca	gcatcaccta	780
catccggccg	caggcaggct	cctctgttac	cacagaccgc	gtcctcagtc	tcttctacac	840
agtcacacaa	cccatgctca	accccatcat	ctacaccctt	cggaacaagg	acgtgaggag	900
ggccctgcga	cacttggtga	agaggcagcg	ccccctca			937

&lt;210&gt; 706

&lt;211&gt; 930

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g555 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 706

atggctggca	acaatttcac	tgaggttacc	gtcttcatcc	tctctggatt	tgcaaatcac	60
cctgaattac	aagtcagtct	tttcttgatg	tttctcttca	tttatctatt	cactgttttg	120
ggaaacctgg	gactgatcac	gttaatcaga	atggattctc	agcttcacac	ccctatgtac	180
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atgtactttt	ttgttggatt	ggtgtgttgt	gagtgtttcc	ttctgggata	aatggcctac	360
aatcgctaca	tagcaatctg	caatccctta	ctgtattcag	tagtcatgtc	ccaaaaatg	420

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acagctcttt	tagcactctc	ctgtgtagat	acattcggca	cagaaatggg	gagctttgtc	600
ttagctggat	tactcttct	tagctctctc	cttatcatca	cagtcactta	tatcatcate	660
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attcccatgc	tgaatccact	catctacagt	ctgaggaaca	aagatgtgaa	aaatgctctt	900
ctgagagtca	tacatagaaa	actttttcca				930

&lt;210&gt; 707

&lt;211&gt; 471

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g556 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 707

atctgtagcc	ccttgctgta	cagtgtcatc	atatccaata	aggcttgctt	ttctctgatt	60
ttaggggtgt	atataatagg	cctggtttgt	gcacagttc	atacaggctg	tatgtttagg	120
gttcaattct	gcaaatttga	tttgattaac	cattatttct	gtgatcttct	tcccctccta	180
aagctctctt	gctctagtat	ctatgtcaac	aaactactta	ttctatgtgt	tggtgcattt	240
aacatccttg	tcccagctt	gaccatcctt	tgctcttaca	tctttattat	tgccagcatc	300
ctccacattc	gtccactga	gggcaggctc	aaagccttca	gcactttag	ctccacatg	360
ttggcggttg	taatcttttt	tggatctgca	gcattcatgt	acttgcagcc	atcttcaatc	420
agctccatgg	accaggggaa	agtatcctct	gtgttttata	ctattattgt	g	471

&lt;210&gt; 708

&lt;211&gt; 529

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g557 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 708

ctggccccgt	cctccagtct	ggccttgggg	acatggcggt	ggcaatggca	cagcatgact	60
gagcttggtt	tgttggtgct	ctcaggtttt	ggttccgtcc	ggggccttct	gttttgggca	120
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gcagcctctg	cctgcgctgg	cccacgcact	tcctcctgca	ccacttctcc	ttaggggagg	240
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cccaccggta	ggcggtctcc	cgctgctggg	ttctctcgcc	ctccctggca	tgcgccaatg	360
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cagcaccacc	cgctacttcc	ggctggattc	tgggcctgtg	ctgagacct		529

&lt;210&gt; 709

&lt;211&gt; 942

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g558 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 709

atgaccagaa	aaaattatac	ctcactgact	gagttcgtcc	tattgggatt	agcagacacg	60
ctggagctac	agattatcct	ctttttgttt	tttcttgtag	tttatacact	tacagtactg	120
ggaaatctcg	ggatgatact	cttaatcagg	atcgattccc	agcttcacac	acccatgtat	180
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atgtacttct	ttatctccct	ggcgacaacc	gaatgcaccc	tctttgggtt	aatggcctat	360
gacaggtag	cggccatag	tcgcccgtg	ctttactcct	tgatcatgtc	caggaccgtc	420
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attttggctg	gtgtgaatat	tgtggggact	ctgcttgtca	tcctctcctc	ctactcctac	660
gttctcttct	ccattttttc	tatgcattcg	ggggagggga	ggcacagagc	tttctccacg	720
tgtgcctctc	acctgacagc	cataattctg	ttctatgcca	cctgcaccta	tacttacctg	780
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gtgattccca	tgttgaatcc	tctgatctac	agcctcagga	gtaaggaagt	aaagaaggct	900
ttagcgaatg	taattagcag	gaaaaggacc	tcttccttcc	tg		942

&lt;210&gt; 710

&lt;211&gt; 941

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g559 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 710

atgaccagaa	aaaattatac	ctcactgact	gagttcatcc	tattgggatt	agcagacacg	60
ctggagctac	agattatcct	ctttctgtta	tttcttgtga	tttacacact	taccgtactg	120
ggaaatatcg	ggatgatcct	cttaatcagg	atcgattccc	ggettcacac	acccatgtat	180
ttcttctctg	ttaacctgtc	ctttgtggac	atttgttact	caaccacccat	caccccaaag	240
atgctggcag	atttattatc	agagaagaaa	accatctctt	ttgctggctg	cttctacacg	300
atgtacttct	ttatcgccct	ggcgacaacc	gaatgcaccc	tctttgggtt	aatggcctat	360
gaccggtatg	tgaccatag	tcgcccgtg	ctttactcct	tgatcatgtc	caggacagtc	420
tgccataaaa	tggcagccgg	ggcttttgct	gcagggttgc	tgaactccat	ggtcaacact	480
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acttttctgt	gtgtgaataa	ggtcggggct	ctgcttgtca	tcctctcctc	ctattctac	660
gttctcttct	ccattttttc	tatgcattca	ggggagggga	ggcacagagc	tttctccacg	720
tgtgcctctc	acctgacagc	cataatcctc	ttctacacca	cctccatcta	tacctacctg	780
agacctagtt	ccagctactc	cctgatcagg	acaaagtggg	ttctgtgttc	tacacagtgg	840
tgatcccat	attgaatcct	ctgatctaca	gcctcaggaa	taaggaagta	aagaaggctt	900
tagcgaatgt	aattagcagg	aaaaggatcc	cttcatttct	g		941

&lt;210&gt; 711

&lt;211&gt; 939

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g560 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 711

atgagtgggg	agaatgtcac	caaggctcagc	accttcatcc	tggtgggcct	ccccacggcc	60
ccagggtctg	agtacctgct	cttctcctc	ttcctgtcca	cctacctctt	tgtcctgggtg	120
gagaacctgg	ccatcatcct	catcgtctgg	agcagcacct	ccctccacag	gcccattgtac	180
tactttctga	gtcccatgtc	tttctggag	atctggtagc	tgtctgacat	cacccccaag	240
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ctctacttct	tcagctccct	ggtgtgcacc	gagtgtgtgc	ttctgcctcc	atggcctacg	360
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gctccagctg	gtgggcttct	cctttgtgag	tgtttctcca	tctccatgat	caaggctctgt	480
tttatctcca	gcgtcacgtt	ctgtggctcc	aacgtcttga	acccacttct	tctgtgacat	540
ttcccccatc	ctcaagctgg	cctgcacgga	cttctccact	gcagagctgg	tgatttcac	600
ctggccttca	tcatectggg	gtttccgctc	ctggccacca	tactgtcata	ttggcacatc	660
accctggctg	tcctgcgcac	cccctcgccc	accggctgct	ggagagcctt	ctctacctgc	720
gcctctcacc	tcaccgtggg	caccgtcttc	tatacagcct	tgcttttcat	gtatgtccgg	780
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acgccataaa ttaacccttt gatttactgc ctgaggaaca aggaatttaa ggacgccttg 900  
 aaaaaggcct tgggcttggg tcaaacttca cactaagac 939

<210> 712

<211> 642

<212> DNA

<213> Unknown (H38g561 nucleotide)

<220>

<223> Synthetic construct

<400> 712

ctggctgacc	tctgtttctc	taccaacata	gttcctcagg	cactagtcca	cctgctttcc	60
agaaagaagg	tcattgtatt	cacactgtgc	gcagctcgac	ttctctttct	cctcattggg	120
gggtgtaccc	agtgcgccct	tcttggagtg	atgtcctatg	atcgctatgt	tgcaatctgc	180
aatectctgc	gttaccctaa	catcatgacc	tggaaagtgt	gtgtccagct	ggcaacagca	240
ccatggacca	gtggtattct	gggtgtctgt	gtagacacca	ccttcacact	gaggctaccc	300
taccgaggca	gtaacagcat	tgtcatttcc	tgggtgtgagg	cccctgcaact	attgatctta	360
gcattccacag	acacccatgc	atcagagatg	gccatttttc	ttacgggggt	tgtgattctc	420
ctcatacctg	tttttctgat	tctggtatcc	tatggccgta	tcataagtaac	tgtgggtcaag	480
atgaagtcaa	ctgtggggag	tctcaaggca	ttttctacct	gtggctccca	cctcatggtg	540
gtcatacttt	tttatggatc	agcaattatc	acttacatga	cacccaagtc	ttccaaacag	600
caggaaaaat	cgggtgtctgt	tttctatcca	atagtgtactc	cc		642

<210> 713

<211> 948

<212> DNA

<213> Unknown (H38g562 nucleotide)

<220>

<223> Synthetic construct

<400> 713

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ctacctctca	gagtcacact	gttcttggta	ttccttcttg	tatatacatt	aactatggtc	120
ggaaatatac	tcttaataat	tctagttaat	attaattcaa	gccttcaa	tcccatgtat	180
tattttctta	gcaacttata	tttcttagac	atcagctgtt	ctacagcaat	cactcctaaa	240
atgtctggcaa	acttcttggc	atccaggaaa	agcatctctc	cttatgggtg	tgactactaa	300
atgtttttct	tcgttctctt	tgtgatgct	gagtgcctta	tcctggcagc	aatggcttat	360
gaccgctatg	cagccatctg	caacccactg	ctctatacta	cactgatgtc	taggagagtc	420
tgtgtctgct	tcatttgtgt	ggcatatttc	agtggaaagta	caacatcact	ggtccatgtg	480
tgccatcacat	tcaggctgtc	attttgtggc	tccaatateg	tcaatcattt	tttctgtgat	540
atccacctc	tcttggcttt	atcatgtaca	gacactcaga	tcaaccagct	tctgtctttt	600
gctttgtgca	gcttcaccca	gaccagcact	tttgtggtaa	tatttatctt	ttacttctgc	660
atcctcatca	ctgtgttgag	catcaagtcc	tcagggtggca	gaagcaaaac	attctccact	720
tgtgcttccc	acctcatagc	agtcacctta	ttctatggag	cgctcctgtt	tatgtactta	780
cagcccacca	ctagctattc	cctagacact	gataagggtg	tggcagtggt	ttatactgtt	840
gtatttccca	tgtttaatcc	aataatttat	agtttcagaa	acaaggatgt	gaaaaatgct	900
ctcaaaaagc	tattagaaag	aattggatat	tcaaatgaat	ggtatttta		948

<210> 714

<211> 939

<212> DNA

<213> Unknown (H38g563 nucleotide)

<220>

<223> Synthetic construct

<400> 714

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ggacttgagg	gtggcctgga	gaaccaggcc	ctgctctttg	ctgtgttccc	aggtctatac	120

atggtgacca	tcccgggaaa	cctcaccatg	accatgggtca	tcatectgga	cacgcacctg	180
cacttcccag	tgaacttctt	cctcaggagc	ctcccccttc	ctggaccttg	gccatgcctc	240
catcacccca	atgccctggg	taacttctct	tcctcggtca	aggctggtac	ctttgcaggc	300
tgtgctgccc	ggttcttttt	ctccttgetg	tctaccactg	agactttcct	gctggccgtg	360
atggcctatg	actgcttctg	ggccatctgt	agtctgggtg	gggtgccagt	gaccacgtgc	420
ctctcgatct	gcacatcctt	gggaccaggc	acctactgca	gggtctgcct	cagctccatc	480
gtgcagaccg	gcctcatgtt	ccagctccct	tctgcaggga	ccaaccacat	tgaccactct	540
gtgacatgcc	ccagctgctc	cggctggcct	gtgcatgcct	ggccctcaat	gagctgacca	600
agttcagcct	ttgtgggctc	atgatgggaa	cgccactctt	gtggctcctg	tctccttttg	660
ctgtgtcaca	gtgaccatcc	tgaggacacc	ctccgcagcc	agtgacataa	ggcttccacc	720
tgtagctccc	acgtgatgac	cgtgtccctg	tttgatggga	ctgtgtttgt	cacatatgcc	780
cagccaggga	ctatggagtc	catggagcag	ggcaagggtg	tgtctgtctt	ctacagcctg	840
gtcatcccga	tgcttggccc	cttcatctac	agcctacgaa	acaaggacat	gaaggaggcc	900
ctgcggaggc	tgggcccagag	acaagcactc	atgggaagg			939

&lt;210&gt; 715

&lt;211&gt; 756

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g564 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 715

atgtacttct	tccttgga	cctctccttt	tgtgatattct	gctactctac	tgtcttttct	60
cctaagatgc	tagtcaattt	cctatcaaaa	cataagtcca	gtacattttc	tggctgtgtt	120
ctacagagtt	tcccttttgc	agtatatgta	accacaaagg	acattctcct	gtccatgatg	180
gcttatgacc	attacgtggc	catagcta	cccttggtgt	atacagtc	tatggcccaa	240
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atctgcatca	tcattgccat	ccagagaatc	catgcagctg	aggggaaggta	caaagccttc	540
tccacttggtg	tctccacact	aaccacgggtg	accttattct	atgggtctgt	ttcttttagt	600
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acactgggtga	tcccatgct	aaacccactt	atttatagcc	tgagaaataa	ggatgtaaaa	720
gatgcagcca	aaaggttgat	atggtggggg	gaaaaa			756

&lt;210&gt; 716

&lt;211&gt; 954

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g565 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 716

atgagtgggg	agaatgtcac	cagggtcggc	accttcaccc	tgggtgggctt	ccccacggcc	60
ccagggtctgc	agtacctgct	cttccctctc	ttcctgctca	cctacctctt	tgtcctgggtg	120
gagaacctgg	ccatcatcct	caccgtcttg	agcagcacct	ccctccacag	gcccatgtac	180
tactttctga	gtcccatgtc	tttccctagag	atctgggtacg	tgtctgacat	cacccccaa	240
atgctggagg	gcttccctct	ccagcagaaa	cgcactctct	tcgtcgggtg	catgacgcag	300
ctctacttct	tcagctccct	gggtgtgcac	gagtggtgct	ttctggcctc	catggcctac	360
gaccgctacg	tggccatctg	ccaccgctg	cgctaccacg	tccttgtgac	cccggtctgt	420
gcctccagct	gggtgggcttc	tcctttgtga	gtggcttcac	catctccatg	atcaaggctc	480
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cgcctctcac	ctcaccgtgg	tcaccgtctt	ctatacagc	ttgcttttca	tgtatgtccg	780
ccccaggcca	ttgattcccg	gagctccaac	aagctcatct	ctgtttttgta	cacagtatc	840

acccccatct tgaaccctt gatatactgc ctgaggaata aggaatttaa gaatgccttg 900  
 aaaaacagtc ggcttgacga ctgcgcgta gaggggagge tttctagtct tctg 954

<210> 717

<211> 960

<212> DNA

<213> Unknown (H38g566 nucleotide)

<220>

<223> Synthetic construct

<400> 717

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gctgaactga agatggctct cttcgtgttg ttctgtctga tctacacccat ttccctgggtg	120
ggaaatatag gaatgctctt tctaattctat gtaactccca aactccacac acccatgtat	180
tatttctca gctgtctgtc atttggtgat gcctgctatt catcagtttt tgcaccaga	240
atgctgctga acttctttgt tgagcgggag acaatcttat tctctgcatg tattgtgcag	300
tattttttat tctgtctctt ccttaccact gagggtctct tgcctggccac aatggcttac	360
gaccgttaca tggccattgt gaacccttta ctttatacag tagctatgac taaaatagtt	420
tgtattgtgc tgcgatttgg gtcattgtat ggaggtttta tcaactcatt gacacataca	480
attggcttgg tgaactgtc tttctgtggg ccaaatgtca tcagtcactt cttctgtgat	540
cttccccac tgttgaagct gtcattgtct gagacatcta tgaatgaatt gttgcttttg	600
atcttctctg gcattattgc cacgtcact tttttgactg tggatgctc ctacatcttc	660
attgttctg ctatcctgag gatccgctaa gcagcaggta gacgtaaagc cttctccacc	720
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cagccaaact cccagtattc cctagaacaa gaaaagggtg tgtctgtatt ttataacctg	840
gtggttccca tgttaaacc attgatttac agcctaagga acaaggaagt gaaggaagct	900
gtgaaaaggg ctatagaaat gaaacatttt cttgtttaat ttcattttc catatccaaa	960

<210> 718

<211> 938

<212> DNA

<213> Unknown (H38g567 nucleotide)

<220>

<223> Synthetic construct

<400> 718

atgttgggga attactctag cgccactgaa ttttttctct taggttccc tggtcccaa	60
gaagtacgcc gtatcctttt tgtgaacttc ttcttcttgt acgcagtgc agtgatggga	120
aacacgggtca tcatcgtcac tgtctgtgtt gataaacatc tgcagtcacc catgtatttt	180
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ttatgtggct gtgtgtaacc ctttgaggta caacatcatt atgaacagca gcacatgtgt	420
ctggatggtc attgtatcat ggggtgtttg gttccttttt caaatctggc cagtttatgc	480
cacttttcag cttactttct gcaaatcaaa tgtgttagat cttttttact gtgactgagg	540
acaattgctc aagggtatcct gtgaggacac tcttttcaca gagtttatte tttttcta	600
ggctgttttc attatcattg gttcttttga tccctacgat tgtctcctac acctacatca	660
tctccaccat cctcaagatc ccgttagcct ctggctggag gaaatccttt tccacttgtg	720
cctccactt cacctgtgtt gtgatcggct acagcagctg cttgtttctc tacacgaaac	780
ccaagcaaac acaggcagcc aagtataacc ggatagcgtc actgctggtt ttagtgggtg	840
ccccttttct gaacccttct atcttcaccc tgaggaatga caaattcata caggcctttg	900
gagatggcat gaaacactgc tatcaactcc tcagaatt	938

<210> 719

<211> 942

<212> DNA

<213> Unknown (H38g568 nucleotide)

<220>

## &lt;223&gt; Synthetic construct

&lt;400&gt; 719

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gataaccctg	aaatgaatgt	tgtcctttct	gtgctctttc	tattaatcta	tctcattact	120
gtcttgggca	acttttggat	tatcataata	attctggcta	gtgcccaact	ccattcaccc	180
atgtactttt	tccttagcca	gttggcttct	ttagatttct	gctattcttc	agtcttgatt	240
cctaaaatgt	tgggtgaatta	catagcagga	cagaaagtca	tctcttatca	cggttgcctc	300
cttcagtatt	cctttgtcag	cttgttccctg	actactgaat	gcttccctcct	ggctgccatg	360
gcatgtgac	ggtatctcgc	tggttgccac	ccacttcaact	acaaaggtct	catgactcct	420
actttctgaa	tctatttggg	gactgtttct	tacctgctgg	gctctgtaaa	ctccctcacc	480
cacctgagta	gcttactcag	tttgtcttct	tgtgggtcca	atgttatcaa	cgttatttct	540
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tttactgtcc	tttctggagc	aacatcagtg	actacctttt	tgatagtggg	tagttcctat	660
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tatctgggag	ccaaccctgg	atactcacag	gatagaccca	aaattctgcc	tgtggagtgc	840
acacttttgt	tgtcaatact	aaatcttcta	atatatagcg	tgagaaacag	agaagtcaaa	900
gaagccataa	aaataattat	taagagaaaa	atacttccctc	ag		942

&lt;210&gt; 720

&lt;211&gt; 942

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g569 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 720

atgttgatga	attactctag	tgccactgaa	ttttatctcc	ttggcttccc	tggtcttgaa	60
gaactacatc	atataccttt	tgtctatattc	ttctttttct	acttggtgac	attaatggga	120
aacacagtca	tcatacatgat	tgtctgtgtg	gataaacgctc	tgacgtcccc	catgtatttc	180
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gaccgttatg	tggtctgtctg	taaccctctg	aggtacaaca	tcattatgaa	cagacacacc	420
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cgagggtcaat	tgctcaaaact	atcctgcaat	aatactcttt	tcacggagtt	tatcctcttc	600
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tgtgcctccc	acttcacctg	tggtgtgatt	ggctacggca	gctgcttggt	tctctacgtg	780
aaacccaagc	aaacgcaggc	agctgattac	aattgggtag	tttccctgat	ggtttcagta	840
gtaactcctt	tcctcaatcc	tttcatcttc	accctccgga	atgataaagt	catagaggcc	900
cttcgggatg	gggtgaaacg	ctgctgtcaa	ctattcagga	at		942

&lt;210&gt; 721

&lt;211&gt; 936

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g570 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 721

atgatgggta	gaaggaatga	cacaaatgtg	gctgacttca	tccttacggg	actgtcagac	60
tctgaagagg	tccagatggc	tctgtttatg	ctatttctcc	tcataacct	aattactatg	120
ctgggggaatg	tggggatgct	attgataatc	cgcctggacc	tccagcttca	cactcccatg	180
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aaaaccttag	cgaacttact	gacttccaac	tatatttctc	tcacgggctg	ctttgccag	300
atgttctgtt	ttgtcttctt	gggtactgct	gaatgttata	ttctctctc	aatggcctat	360

gacgctatg	cagcgatctg	cagtcctcta	cactacacag	ttattatgcc	caaaaggctc	420
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aagccaagaa	agtcttattc	cttggaaga	gatcaagtgg	ctcctgtgtt	ttatactatt	840
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ctcattagag	tcatgcagag	aagacaggac	tccagg			936

&lt;210&gt; 722

&lt;211&gt; 730

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g571 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 722

atgtcatgat	gaattttctg	cctgccaaaa	ataatcatta	ctttattgca	gtaggagtgg	60
gatgctttaa	atttagagac	acgggttttt	ctggaagagg	acttcccatg	tggattcagc	120
ttgtggattg	tacgtcaatt	gtcttttttc	ttggaataaa	attaatttgc	tcatttaaaa	180
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gttatgtctc	agtcattaca	tccaaaatgt	ttggaagtgt	cttgtacaaa	caaaaaaat	300
taaccttcaa	tgcacatagg	ctgtctcttc	accttcatga	ccaccgagtg	cttgctctag	360
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attattttgt						730

&lt;210&gt; 723

&lt;211&gt; 936

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g572 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 723

atggctcctg	aaaatttcac	cagggtcact	gagtttatct	tcacaggtgt	ctctagctgt	60
ccagagctcc	agattcccct	cttcctgggt	ttcctagtgc	tctatgtgct	gaccatggca	120
gggaacctgg	gcatcatcac	cctcaccagt	gttgactctc	gacttcaaac	ccccatgtac	180
tttttcctga	gacatctagc	tatcatcaat	cttggaact	ctactgtcat	tgccccataa	240
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attgcacctc	tgtagcatt	atcttgcctc	gatacttaca	taccagaaac	aatagtcttt	600
atatctgcag	caacaaattt	gtttttttcc	atgattacag	ttctagtatc	ttattttcaat	660
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cagccccaaa	ccaaccactc	actggatact	gataagatgg	cttctgtgtt	ttacacattg	840
tgatttcta	tgtgaatcc	cttgatctac	agcctgagga	ataatgatgt	aaatgttgcc	900
ttaaagaaat	tcatggaaaa	tccatgttac	tccttt			936

&lt;210&gt; 724

<211> 481  
 <212> DNA  
 <213> Unknown (H38g573 nucleotide)

<220>

<223> Synthetic construct

<400> 724

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catcatagta	tgtgttgaga	aatgcctgct	gttcctccta	tatttattct	atgggtgacct	180
ctctgtcatg	gaaatcctta	tcacatatac	tgctgttccc	ttgatgctca	ggggttgtta	240
ctttccatga	ttcaaacaat	acctttaatg	acatgtgctg	tccaactcta	tatgaacttt	300
tttgggggta	cacaaaattt	gcattactgg	gagtgatgac	tgtgaaccat	tatgtggctc	360
tctgtaactc	tttgaagtaa	aacatcatta	tgagcagaca	cactgcatct	ggctggtaat	420
tgtattattg	attgggttcc	tttctgaaat	ctggtcagtc	tatgccacat	ttcagctccc	480
t						481

<210> 725

<211> 971

<212> DNA

<213> Unknown (H38g574 nucleotide)

<220>

<223> Synthetic construct

<400> 725

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acgggtgctg	ggaacctcct	cagtatcctg	gctgtcagct	ctgactcccc	cctccacacc	180
cccatgtact	tcttcctctc	caacctgtgc	tgggctgaca	tcgggtttcac	ctcggccatg	240
gttcccaaga	tgattgtgga	catgcagtcg	catagcagag	tcattctctca	tgagggtgc	300
ctgacacaga	tgtttttctt	ggtccttttt	gcatgtatag	aaggcatgat	cctgactgtg	360
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tactataaaa	tcgtcacctc	cattctcagg	atttcatctt	cagatgggaa	gtataaagcc	720
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tacgtgtggg	tcacccccat	gctgaacctt	ttcatctaca	gcctgagaaa	cagggacata	900
caaagtgcct	tgcgagggtc	gcgcagcaga	acagtcgaat	ctcatgatct	gttccatcct	960
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<210> 726

<211> 960

<212> DNA

<213> Unknown (H38g575 nucleotide)

<220>

<223> Synthetic construct

<400> 726

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tgcttcttcc	tctccaacct	gtgctgggct	gacatcgggt	tcacctcggc	cacggttcct	240
aagatgattg	tggaatgca	gtcgcatagc	agagtcactc	cttatgaggg	ctgcctgaca	300
aggatgtctt	tcttggctct	ttttgcatgt	acagaagaca	tgcttctgac	tgtgatggcc	360
tatgactgct	ttgtagccat	ctgtcgccct	ctgcactacc	cagtcactcg	gaatcctcac	420

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tatttcgata	gtactatgtt	tgggtttctt	cccatttttag	gggtcccttt	gtctcactat		660
aaaattgtcc	cctccattct	aaggatttca	tcgtcagatg	ggaagtataa	agtcttcgct		720
acctgtggct	ctcacctggc	agttgtttgc	tgatttgatg	gaacaggcat	tgacatgtac		780
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gttttcaccc	ccatgctgaa	ccctttc	atcagcctga	gaaacaggga	catacaaagt		900
gccctgcgga	gggtgctcag	cagaacagtc	gaatctcatg	atctgttcca	tcctttttct		960

&lt;210&gt; 727

&lt;211&gt; 806

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g576 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 727

gtctccctca	tcacctacct	gatcacagtg	atgagcaacc	tgggcatgaa	tattttgacc	60
aaactagact	cccacctata	cacacctgtt	gtatattttt	taatcaaaca	catatttttc	120
attgattttt	acaattgtat	tggtattttac	accaataaaa	tgtaaattt	tggtgtggat	180
cagaataaca	tttcttatta	tgcatgtgcc	acacatatga	ctttcttatg	ttcattatca	240
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tgttttacat	tggtatcatg	tgtctgtgac	tgtaacatgt	gctgatgagc	attccatacc	360
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tctttaagaa	ttagtgcaaa	ctttgt				806

&lt;210&gt; 728

&lt;211&gt; 384

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g577 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 728

atgggaggca	agcagccctg	ggtcacagaa	ttcatcctgg	tgggattcca	gctctgtgca	60
gagatggaga	tctttctctc	ttgcatcttc	tcgcgatttt	atgccttcag	tctactgagg	120
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cagatatttt	tgtatttggc	ttttgctcac	acagagtgcc	taatttaggc	aatgatgtcc	360
tgtaatagat	atgtggcaat	ctgc				384

&lt;210&gt; 729

&lt;211&gt; 921

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g578 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 729

atgggccaac	acaatcta	aac	agtgctaact	gaattcattc	tgatggaact	cacaaggcgg	60
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cctgagctgc agattcccct ttttgagtc ttcctcgtca tctacctaata cacagtgggtg 120
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gtaatcccca tgcttaacct tttgatttac agcttaagaa acgaagaggt gaaaaatgcc 900
ttctataagc tctttgagaa t 921

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&lt;210&gt; 730

&lt;211&gt; 654

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g579 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 730

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ttgcctgaca tcagtttcac ctccaccaca gtccccaaga tgatttgtga catccaatct 60
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ttttcccca gaaagggtgc agtggcctca gtgatgtacg cggttgtcac cccc 654

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&lt;210&gt; 731

&lt;211&gt; 683

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g580 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 731

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atgtacttct tcttctccaa cctgtccttg cctgacgacg gtttcacctc caccacgggtc 60
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tgatgtacac ggtggccatc ccc 683

```

&lt;210&gt; 732

&lt;211&gt; 582

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g581 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 732

tactttttcc	tctccaacct	ctccttcttg	gacctctgtt	tcaccataag	ttgtgtcccc	60
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&lt;210&gt; 733

&lt;211&gt; 959

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g582 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 733

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&lt;210&gt; 734

&lt;211&gt; 954

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g583 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 734

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&lt;210&gt; 735

&lt;211&gt; 962

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g584 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 735

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tc						962

&lt;210&gt; 736

&lt;211&gt; 375

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g585 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 736

agactaaatg	tcatacagta	cctgcccttc	tatggggaca	tcataacca	cttgacctgt	60
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gcagacaaac	tcattctcct	ctcctatgga	gtggtcacc	ccatgctgaa	caccatcatc	300
tacagcctga	ggaaaaagg	tgtgaaggct	gctgtgaaga	acctggtatt	tcagaaaccc	360
ctaactgaat	gacag					375

&lt;210&gt; 737

&lt;211&gt; 648

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g586 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 737

tttggtgaca	tgggtttaac	gtcctccaca	gttaccaaga	tgctggtgaa	tatacagact	60
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ggtgatctag	acagcttctt	cctggctgcc	atggcgatg	accgctatgt	ggccatctgc	180
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gtttgtgtgt	tctatgggac	cctcttcagt	gcctacctgt	gtcctccctc	cattgectct	600
gaagagaagg	acattgcagc	agctgcaatg	tacaccatag	tgactccc		648

&lt;210&gt; 738

&lt;211&gt; 957

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g587 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 738

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caccacagagc	tggaaaagac	attcttcgtg	ctcatcctgc	tgatgtacct	cgtgatcctg	120
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ctggtcctgg	acagcttttt	gactccccag	gaaaccatct	ccttctcagc	ctgtgctgtg	300
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&lt;210&gt; 739

&lt;211&gt; 653

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g588 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 739

ctgcctgaca	tcggtttcac	ctccaccacg	gtccccaaga	tgattgtgga	catccagtct	60
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cttccccgag	aaaggctgca	gtggcctcag	tgatgtacac	ggtgggtcatc	ccc	653

&lt;210&gt; 740

&lt;211&gt; 648

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g589 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 740

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&lt;210&gt; 741

&lt;211&gt; 988

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g590 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 741

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cctgagaaga	atcatgaaga	aataaatagt	tgtcagacaa	cattcaaacc	atttcttctt	960
tatattctgc	tgaagaaaac	cccaagtc				988

&lt;210&gt; 742

&lt;211&gt; 636

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g591 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 742

tgctactccc	agggtcacgg	ctagcagggc	taggttactt	agagggtagg	aggctaagtt	60
cctcgtacaa	tgcttgtgct	gctcagatgt	tcttttttgt	agccttggcc	acagtggaaa	120
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ctagttatct	tgacctccta	cctgttcata	ttcatcacca	tcttgaagat	gcactcagct	480
cagggaact	taaaagcttt	gtccacctgt	gcctctcacc	tcattgcagt	ctccatcttc	540
tatggaacta	ctatctttat	gtacttacag	cctagctcca	gccattccat	ggacacagat	600
gaaatggcat	ccttgttcta	tgctgtgttc	atctcc			636

&lt;210&gt; 743

&lt;211&gt; 942

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g592 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 743

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&lt;210&gt; 744

&lt;211&gt; 648

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g593 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 744

ttctctgacc	tctgtctctc	ttccgtgacc	attcccaagt	tgttacagaa	catgcagaac	60
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&lt;210&gt; 745

&lt;211&gt; 936

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g594 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 745

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&lt;210&gt; 746

&lt;211&gt; 384

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g595 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 746

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&lt;210&gt; 747

&lt;211&gt; 810

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g596 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 747

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&lt;210&gt; 748

<211> 342  
 <212> DNA  
 <213> Unknown (H38g597 nucleotide)

<220>  
 <223> Synthetic construct

<400> 748  
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<210> 749  
 <211> 635  
 <212> DNA  
 <213> Unknown (H38g598 nucleotide)

<220>  
 <223> Synthetic construct

<400> 749  
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 aagctgtgtc tgtgttctat accaccatca cccca 635

<210> 750  
 <211> 633  
 <212> DNA  
 <213> Unknown (H38g599 nucleotide)

<220>  
 <223> Synthetic construct

<400> 750  
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 cttgctctga cccctgtgtg agccagtaga tcactttagt ttctgccaca ttcaatgaaa 420  
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 gtggcctctg gcttttacac agtgggtcatg ccc 633

<210> 751  
 <211> 646  
 <212> DNA  
 <213> Unknown (H38g600 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 751

tttgtagaca	tctgtgttac	ctccaccaca	gtcccaaaga	cactgtcaaa	catccggaca	60
cagagtaaag	tcacacaccta	tgagggttg	atcaccacaga	tgtacttttt	tgtactcttt	120
atagtgttgg	acagcttact	cttgaccgtg	atggcctatg	accagtttgt	ggccatctgt	180
cacccctgc	actacacgg	catcgtgaac	cctcggtct	gtggactgt	ggttctggcg	240
tcctggatca	tgagtgcct	gaattccttg	atagaaagct	taatgggtgt	gccactgtct	300
ttttgtacag	acttgaaaat	ccccacttt	ttctgtgaac	ttaatcagat	aatcegcagt	360
gcctgttctg	acacctttct	taatgacatg	gtgatgtatt	tgtcagctgt	gcttctaggt	420
aggggatgtt	tcactgggat	cctgtactct	tactttaaga	cagtttctct	catacgtgca	480
atctcatcag	ctcaggggaa	gtacaaggca	ttttccacct	gtgcacgca	cctctcagtt	540
gtctccttat	tttattgtat	gggccttggg	gtgtacctta	gtgctgctgc	aaccacaaac	600
tcactctcaa	gtgcaacagc	ctctgatgta	cactgtgggtc	accccc		646

&lt;210&gt; 752

&lt;211&gt; 342

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g601 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 752

atttgctttc	ctctccacta	tcccatccgt	atgagaaaaa	gagtgtgtgc	actgatgata	60
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&lt;210&gt; 753

&lt;211&gt; 648

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g602 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 753

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atgtgcagaa	acaagtttat	tgatcacata	tcctgtgaac	tcctagctgt	ggtcaggctg	360
gtcgtgtgtg	acacctctc	caatgaggtc	accatcatgg	tgtctagcat	tgttcttctg	420
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&lt;210&gt; 754

&lt;211&gt; 635

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g603 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 754

tttgtggaca	ttgcctgttc	ctcagccaca	gcacccaaga	tgattgaaga	ctttgtttct	60
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gcctgtgctg	atacaactct	ggtaaatatg	ttggtggttg	ccaacagtgg	tctcatctcc	420
ctgggggtgtt	tcctcattct	tttggcctcc	tacacagtca	ttctgtttag	tcttcaaaaa	480
cagtctgcag	agagctgaca	caaagttctc	tctacctgtg	gatctcatct	gactatagta	540
actttcttct	ttgttccgtg	tatctttatt	tatctccatc	cactactttc	ccattggata	600
aagctgtgtc	tgtgttctat	accaccatca	cccca			635

&lt;210&gt; 755

&lt;211&gt; 342

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g604 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 755

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&lt;210&gt; 756

&lt;211&gt; 333

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g605 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 756

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aggatcggct	caacagaggg	aagaaacaaa	gct			333

&lt;210&gt; 757

&lt;211&gt; 665

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g606 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 757

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cctcc						665

&lt;210&gt; 758

&lt;211&gt; 646

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g607 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 758

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cacccctgc	actacacggg	catcgtgaac	cctcggtctt	gtggactgct	ggttctggcg	240
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&lt;210&gt; 759

&lt;211&gt; 834

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g608 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 759

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&lt;210&gt; 760

&lt;211&gt; 942

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g609 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 760

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&lt;210&gt; 761

&lt;211&gt; 948

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g610 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 761

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gccaacctct	ggggcccaaa	gaagaccatc	agcttccctg	actgctctgt	ccagatcttc	300
atcttctctg	ccctggggac	aactgagtgc	atcctcatga	aagtgatggc	ttttgatcgc	360
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cagctggcat	ctgtggcctg	ggtcattggg	ctagtggggg	cagtgggtcca	gacaccatcc	480
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&lt;210&gt; 762

&lt;211&gt; 927

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g611 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 762

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tgcagggctg	ttggtgggaa	gttttcc				927

&lt;210&gt; 763

&lt;211&gt; 650

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g612 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 763

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&lt;210&gt; 764

&lt;211&gt; 641

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g613 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 764

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tgaaggactc	agtagccaca	gtgatgcatg	cggtgggtgac	g		641

&lt;210&gt; 765

&lt;211&gt; 635

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g614 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 765

tttgttgatt	tctgttattc	caccacaatt	acacccaaac	tgctggagaa	cttgggtgtg	60
gaagatagaa	ctatctcctt	cacaggatgc	accatgcagt	tattctttgt	ctgcatattt	120

gtagtaacag	aaacattcat	gctggcagtg	atggcctatg	accgatatgt	ggcgggtgtgt	180
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&lt;210&gt; 766

&lt;211&gt; 635

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g615 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 766

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tcttgctctg	acccctgtgt	gagccaggag	atcacttttag	tttctgccac	attcaatgaa	420
ataagcagcc	tgcttcctat	gctttcattt	ttatcactgt	catgaggacg	ccttccactg	480
gggggcgcaa	gaaagcggtc	tccacgtctg	cctcccactt	gacggccatt	accattttcc	540
atgggactat	ccttttccct	tactgtgttc	ctaactccaa	gagttcgtgg	ctcatggtca	600
aggtggcctc	tgtctttttac	acagtgggtca	ttccc			635

&lt;210&gt; 767

&lt;211&gt; 936

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g616 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 767

atgtccattt	ccaacatcac	agtctacatg	ccctctgtgt	tgacactagt	agggatccca	60
ggcctagaat	ctgtgcagtg	ctggattggg	attccattct	gtgccattta	tctcattgct	120
atgattggaa	attccttgct	tctgagcatc	atcaaactctg	agcgcagctc	ccatgagccc	180
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cttcaaatgt	ggttcattca	cacattgcag	ggtatagagt	caggcatcct	tgtggccatg	360
gccctggacc	ggtatgtggc	catctgttat	ccactaagac	atgccaacat	cttcacccac	420
cagcttggtca	ttcagatagg	aactatggtc	gtactcaggg	ctgctattct	tgtagcccca	480
tgccctagtag	tgataaagtg	ccggtttcaa	ttttatcaca	caacagtcac	ctcccactcc	540
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tatgggttgg	ttgtggcctt	cactgtagca	ggatttgacc	tcacattcat	cacattgtcc	660
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ttcaatacct	gcattgctca	catctgtgtc	ttcctccagt	tctacctcct	tgccctcttc	780
tccttcttca	cacatagggt	tgggtctcac	atccccctt	atatccatat	tctcttttct	840
agcattttact	tgctgggtccc	tccatttctc	aatccacttg	tctatggtgc	aaagaccaca	900
cagattcgca	ttcatgtggt	aaaaatgttc	tgttca			936

&lt;210&gt; 768

&lt;211&gt; 954

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g617 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 768

atgtggcaga	agaatcagac	ctctctggca	gacttcatcc	ttgaggggct	cttcgatgac	60
tcccttacct	accttttccct	tttctccttg	accatgggtg	tcttccttat	tgcggtgagt	120
ggcaacaccc	tcaccattct	cctcatctgc	attgatcccc	agcttcatac	accaatgtat	180
ttcctgctca	gccagctctc	cctcatggat	ctgatgcatg	tctccacaat	catcctgaag	240
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cacttctctt	atttgtgtct	aggtggtgct	gaatgttttc	tcttagctgt	catgtectat	360
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ggactgatga	tggctgtcat	gtcatgggtg	ggggcatccg	tgaactccct	aattcacatg	480
gcgatcttga	tgcaattccc	tttctgtggg	cctcggaag	tctaccactt	ctactgtgag	540
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ggctcccacc	tcacgggtgt	ttctctttgg	tttgggtgct	gcattcttct	ctacatgaga	780
cccaggtccc	agtgcactct	attgcagaac	aaagtgtgtt	ctgtgttcta	cagcatcatt	840
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agaagagtgc	tgaggagaga	tgttatcacc	cagtgcattc	aacgactgca	attg	954

&lt;210&gt; 769

&lt;211&gt; 881

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g618 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 769

gccacgtaca	attccagcaa	tactgtgggtg	acagagtttg	tgtttctgag	cttcccagag	60
ctgcaccatc	ttcaagggct	gctatttgggt	cactcctcat	catctatgtg	gtgaccatcc	120
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agctgttggc	cggactccca	gcacgagcga	cgaccatcta	tctccttctc	ggggcacctc	300
acctggctgc	tcctcttctt	ctcactcagc	tcctctgagt	gcgtcctccc	ggccaacatg	360
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ccccacctat	gcctcccacc	tgggtggcgg	gctcctctaa	cctcatcaag	ctgggtgttca	780
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acatcaggga	ggccctggcc	aaactcctcc	aggcccttcc	c		881

&lt;210&gt; 770

&lt;211&gt; 880

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g619 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 770

gccacatata	attccagcaa	tactgtgggtg	acagagtttg	tctttctgag	cttcccagag	60
ctgcgccatc	ttcaagggct	gctatttgggt	cactcctcat	catctatgtg	gtgaccatcc	120
tagaggacct	ggctgtcgtg	gggaccatca	gagccagcca	ccacctgcac	atatccacac	180
acctcttctt	ggccaaactc	tcgggtgctgg	agacctgta	cacctcggtc	accgtcccaa	240
agctgttggc	cggactccca	gcacgagcga	cgaccatcta	tctccttctc	ggggcacctc	300

acctggctgc	tcctcttctc	ctcactcagc	tcctctgagt	gcacccctcc	ggccaacatg	360
gactgtgact	ggcaccgggt	catctgccac	ctgtctgact	acccagccca	tcattggactc	420
catgcagctg	gctctgectg	cacctggcca	tcagcgccca	gctcagcagc	ttcccagcct	480
cctttgtgtc	cacggctctc	aactccagcc	tgaggctccg	cagccccgat	gtcctcaacc	540
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tgcggaactca	ggcagccag	gtgatccttg	cggtctccct	gcaggcaacc	acggtctcct	660
acaccacat	cctggccaga	tcgctgaggga	ttccagaaaag	gccagcagc	taaaggcctt	720
ccccacctat	gcctcccacc	tgggggtggcg	gctcctctaa	cctcatcaag	ctggtgtcag	780
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catcagggag	gccctggcca	aactcctcca	ggcccttccc			880

&lt;210&gt; 771

&lt;211&gt; 524

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g620 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 771

ctcctaattgg	cagcagacaa	ccacacagcg	tagaggcggt	tgtcctgcag	ggttttctctg	60
aagaccttcc	actccagggc	tgctgctttg	cttttttcc	cctttacctg	atggcacttg	120
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gcggaacaag	gacttatcag	tagcactgag	gagagtgtt	tcttgcatca	ggtaaaagga	360
agggaagttt	ctagtgtgaa	atgttccagg	tgtaacaaa	ctaatttcaa	catatgactt	420
tgagaatctc	atgcaagcag	caaggaacaa	gaaagtaatt	aatgccacat	atttataaat	480
aatgtgtctc	cgcacggggc	tgccatcatt	caatgtggaa	ctcc		524

&lt;210&gt; 772

&lt;211&gt; 951

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g621 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 772

atggaaagga	ccaacgattc	cacgtcgaca	gaatttttcc	tggtagggct	ttctgcccac	60
ccaaagctcc	agacagtttt	cttcgttcta	atttttgtgga	tgtacctgat	gatcctgctt	120
ggaaatggag	tccttatctc	agttatcatc	tttgattctc	acctgcacac	ccccatgtat	180
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attgttgcca	ctattctgag	gattccttcc	actgaaggaa	aacataaggc	cttctccacc	720
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aagcctgagt	ctaaagcctc	tggtgattca	ggtaatgaag	acatcattga	ggccctcatc	840
tcccttttct	atggagtgat	gactcccatg	cttaatcctc	tcatctatag	tctgcgaaac	900
aaggatgtaa	aggctgctgt	caaaaacata	ctgtgttagga	aaaacttttc	t	951

&lt;210&gt; 773

&lt;211&gt; 954

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g622 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 773

atggaatggg	aaaaccaaac	cattctggtg	gaattttttc	tgaagggaca	ttctgttcac	60
ccaaggcttg	agttactctt	ttttgtgcta	atcttcataa	tgtatgtggt	catccttctg	120
gggaatggta	ctctcatttt	aatcagcatc	ttggaccctc	accttcacac	ccctatgtac	180
ttctttctgg	ggaacctctc	cttcttggac	atctgctaca	ccaccacctc	tattccctcc	240
acactagtga	gcttcctttc	agaaagaaag	accatttcct	tttctggctg	tgcagtgcag	300
atgttccttg	gcttggccat	ggggacaaca	gagtgtgtgc	ttctgggcat	gatggccttt	360
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tccatgttct	atgggggtgat	gactcccatg	atgaatcctt	taatctacag	tcttagaaac	900
aaggatgtga	aagaggcagt	aaaacaccta	ccgaacagaa	ggttctttag	caag	954

&lt;210&gt; 774

&lt;211&gt; 369

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g623 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 774

ttcctccttt	aggccaacta	cagcgcagag	gagcgctttc	tcctgctggg	tttctccgac	60
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tgcgcacgc	tggctctggg	ttccgcgcaa	tgcgtccatc	tggcggtgat	ggctctgggc	360
cgcgcggtc						369

&lt;210&gt; 775

&lt;211&gt; 945

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g624 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 775

atgagacaga	ataacaatat	tacagaatth	gtcctcctgg	gctttttctca	ggatcctggt	60
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cttgccctgcc	tgtcattttat	agatgctgca	tattccacta	ccatttctcc	caagttaatt	240
gtaggcttat	tctgtgataa	aaagactatt	tccttccaag	gttgcatggg	ccagctattt	300
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cctttaatat atacgttgag aaattcagag atgagaaatg ctatagaaaa actctttgggt 900  
 aaaaagttaa ctatatattat tataggagga gtgtccgtcc tcatg 945

<210> 776

<211> 352

<212> DNA

<213> Unknown (H38g625 nucleotide)

<220>

<223> Synthetic construct

<400> 776

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gcctgcggag	gcgacggaga	cactaccgag	aaccagatgt	tcgccgcccg	cgtggtcatc	120
ctgctgctgc	cgtttgccgt	catectggcc	tcctacgggt	ccgtggcccg	agactgtctg	180
ttgcatgcgg	ttcagcggag	gccggcagag	aggcgggtggg	cacgtgtggg	tcccacctga	240
cagccgtctg	cctgtttctac	ggctcggcca	tctacaccta	cctgcagccc	gcgcagcata	300
caaccaggca	cggggcaagt	tcgtatcgct	cttctacacc	gtggtcacac	ct	352

<210> 777

<211> 937

<212> DNA

<213> Unknown (H38g626 nucleotide)

<220>

<223> Synthetic construct

<400> 777

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caaaatgcat	tattttgcat	ggttttactc	acatacgttg	tgagtatggc	gggaaacttg	120
cttgctgtgg	tggtatttat	ttccagccct	tcctttggct	ccccaatgta	cttcttctc	180
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accacttatt	tggtggtgct	gaggtcttcc	tacttgtggg	gatgtcctac	gatttctatg	360
tggccatctc	taagccactg	cactatttga	ccatcatgaa	tcaacagggt	tgtatccttc	420
tggttggtgg	ggctgtgact	ggaggttttg	tgagttgtgt	gtttcaaatt	gttgttgtgt	480
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aacagtcact	gtcctgtttc	ttgttccctg	tattttcctt	ttcggttagac	ctgtttcgaa	780
ctttcctatt	gataaattca	tgactgtggt	ttatacagtt	atcatacaca	tgttgaatcc	840
attaatatac	acactgagaa	atttagagat	gagaattgct	gtaaaatcca	atgtaaaaaa	900
actctggcat	taaaaactta	actatagtta	gaatgag			937

<210> 778

<211> 970

<212> DNA

<213> Unknown (H38g627 nucleotide)

<220>

<223> Synthetic construct

<400> 778

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ctgcccattg	tggtgactat	tattgccacc	cccaccttag	gtcctccagt	gtactttctc	180
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ctatgtagcc	atctgtaagc	cactgcacta	tttcaccatc	atgaattgac	aggtttgcat	420

ccttctgttg	gtgggtggctg	tcaactgctgg	ttttgtgcat	tctgtgtttc	aaatttttagt	480
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tggtggagga	atctgtatgg	tcttggtcat	ccttctacta	atctcctgtg	gggtcatect	660
aatctccctt	aaaacttata	gtcaggaagg	gaggcataaa	gccctgtcta	cctgcagctc	720
ccacattacc	gtgggtgtcc	tgttttttgt	tccctgtatt	ttcctgtatg	ttagacctgt	780
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gaatccatta	atatacacat	tgagaaactg	agagatgaaa	aatgctatag	gaaacctctg	900
gtgtaaatat	taactctaga	tagaataaga	gggtacattt	tcatgtaggt	acagggtaat	960
gcaggtaaag						970

&lt;210&gt; 779

&lt;211&gt; 704

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g628 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 779

cccattgtact	tggtccctcgg	caatttgtcc	ttcattgac	tctgtttattc	atttgtcttt	60
acccccaaaa	tgctgatgag	ctttatttca	gagaggaaca	tcatctcctt	tccaggatgc	120
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tccacacaga	gtgtatgatg	aagctcatct	tttgtgactc	caacgtcatc	aaccataaca	360
tgtgtgacat	cttccctactg	ctccagctct	cctgcagcag	cacctaggcc	aatgagctgg	420
tgatgtctgt	tattgtaggc	acagttgtta	tagtatcaag	cctcattatc	ttaatctctt	480
atgctttgat	tcttttcaat	atccttcaca	tgtcctcagc	cgaggggttg	ttcaaagcca	540
tcggtacctg	tggctcccac	ataataactg	ttggcctatt	ctatgaattt	gggctgatca	600
ctcatgttaa	ggttatcatct	gattgggtata	tgggtcaggg	gaagtttctc	tcagtgtttt	660
atacaaagt	ggttcccatg	ctgaaccctt	tcatctactg	tctg		704

&lt;210&gt; 780

&lt;211&gt; 924

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g629 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 780

atgaggcaga	ataacaatat	tacagaattt	gtcctcctgg	gcttctctca	gtatcctgat	60
gtgcaaaaatg	cattattttgt	catgttttta	ctcatatata	ttgtgactat	gggtgggaac	120
ctgctcattg	tggtgtctat	tattgccagt	cccttttttg	gtctccctagt	gtacttcttc	180
cttgccctgcc	tgtcatttat	agatgctgtg	tattccacca	ccatttctcc	tgtattgatt	240
gtagacttac	tctgtgataa	aaagactatt	tccttccctg	cctgcatggg	tcagctattt	300
atagagcact	tgtttggtga	tactgacgtc	ttccttctgg	tggtgatggc	ctatgatcgc	360
tacgtggcca	cctgtaagcc	actgcgctat	ttgaccatca	tgaattgaca	ggtttgcac	420
cttctgttgg	tggtggctgt	gactggaggt	tttctgcatt	ctgtgtttca	aaattttagt	480
gtgtacagtc	tcccttttctg	tggccccaat	gtcattttatc	actttttctg	taacatatac	540
cctttatttg	acctggaatg	cactgacacc	tacttctgtg	gcctcgctgt	ggttttcaat	600
gggtggagcaa	tctgtatggt	catcttcacc	ctctactaa	tctcctatgg	ggtcaccta	660
aactccctta	aaacttatag	tccggaaggg	aggcataaag	ctccgtttat	ctgcagctcc	720
cactttatca	tggttatctt	gttttttgtt	ccctgtattt	tcttatatgt	tagaccggtt	780
tcaaactttc	ctattgataa	attcctgact	gtgtttttatt	cagttatcac	acccaagttg	840
aatcctttta	tatacatggt	gagaaattca	gagatgagaa	atgctataga	aaatctcttg	900
ggataccaaa	gtgggaagac	agga				924

&lt;210&gt; 781

&lt;211&gt; 690

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g630 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 781

cccatgtact	tgttctctgc	caacttgtcc	ttgcctgaca	tgggtttcac	ctccagcatg	60
gtccccaaga	tgattgtgga	catctaactc	cacagcagac	tcatactccta	ggcaggctgc	120
ctgactccca	tgtctctctt	tgccattttt	ggaggcatgg	aagagagaca	tgctcctgag	180
tgtgatccct	atgacccgtt	tgtagccatc	tgtcacccctc	tatatcattc	agccatcatg	240
aaccctgtgt	tctgtggctt	tctagttttg	ttgtcttttt	tttctcagtc	tcttttagac	300
gcccagggtgc	acaacttgat	tgccttacaa	atgacctgct	tcaaggatgt	ggaaattcct	360
aatttcttct	gggaaccttc	tcaactcccc	catcttgcac	gttgcgacac	cttcaccaat	420
aacataatca	tgtattcccc	tgtctgccata	tttgggtttc	ttcccatctc	ggggaccctt	480
ttctcttact	ataagattgt	ttcctccatt	cggagggttt	catcatcagg	tggaagatat	540
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ttttgggggt	acctcagttc	agatgtgtca	tcttccccgg	gaaaggctgc	agtggcctca	660
gtgatgtaca	cggtaggtc	ccccatgctg				690

&lt;210&gt; 782

&lt;211&gt; 681

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g632 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 782

tctttcctgg	agattggctt	caacctagtc	attgtgcccc	aaatgctggg	gacctgctt	60
gcccaggaca	caaccatctc	cttccttggc	tgtgccactc	agatgtattt	cttcttcttc	120
tttggggtag	ctgaatgctt	cctcctggct	accatggcat	atgaccgcta	tgtggccatc	180
tgcagtcctt	tgcactaccc	agtcatcatg	aaccaaagga	cacgggcca	actggctgct	240
gcttctctgg	tcccaggctt	tcctgtagct	actgtgcaga	ccacatggct	cttcagtttt	300
ccattctgtg	gcaccaacaa	ggtgaaccac	ttcttctgtg	acagcccgc	tgtgctgaag	360
ctggtctgtg	cgacacacag	actgtttgag	atctacgcca	tcgtcggaac	cattctgggtg	420
gtcatgatcc	cctgcttgct	gatcttgtgt	tcctatactc	gcattgctgc	tgctatcctc	480
aagatcccat	cagctaaagg	gaagcataaa	gccttctcta	cgtgctcctc	acacctcctt	540
gttgtctctc	ttttctatat	atcattaagc	ctcacgtact	tccggcctaa	atcaaataat	600
tcacctgagg	gcaagaagct	gctatcattg	tcgtacactg	ttatgactcc	catgctgaac	660
ccctttcatc	tactgtctcg	g				681

&lt;210&gt; 783

&lt;211&gt; 576

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g633 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 783

atggtcacag	agttctctct	actgggattt	ctcctgggccc	caaggattca	gatgctcctc	60
tttgggctct	tctccctgtt	ctatgtcttc	accctgctgg	ggaatgggac	catcctgggg	120
ctcatctcac	tggactccag	actccacacc	cccatgtact	tcttctcttc	acacctggcg	180
gtcgtcgaca	tcgcctacgc	ctgcaacacg	gtgccccgga	tgtgtgtgaa	cctcctgcat	240
ccagccaagc	ccatctcctt	tgcggggccgc	atgatgcaga	cctttctgtt	ttccactttt	300
gctgtcacag	aatgtctcct	cctgggtggg	atgtcctatg	atctgtacgt	ggccatctgc	360
cacccctcc	gatatttcat	catcatgacc	tggaaagtct	gcatactct	ggccatcact	420
tcttggacat	gtggctccct	cctggctatg	gtccatgtga	gcctcatcct	aagactgccc	480
ttttgtgggc	ctcgtgaaat	caaccactty	ytctgtgaaa	tcctkktgt	cctcaggctg	540
ggctgtgctg	atacctggct	caaccagggtg	gtcatc			576

<210> 784  
 <211> 924  
 <212> DNA  
 <213> Unknown (H38g634 nucleotide)

<220>  
 <223> Synthetic construct

<400> 784  
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 gatccagaac tgcagccagt ccttgctggg ctgttcctgt ccatgtgcct ggtcacgggtg 120  
 ctgggggaacc tgctcatcat cctggccatc agccctgact cccacctcca ccccccatg 180  
 tacttcttcc tctccaacct gtcttgccct gacatcggtt tcacctccac cacgggtcccc 240  
 aagatgattg tggacatcca gtctcacagc agagtcactt cctatgcagg ctgcctgact 300  
 cagatgtctc tctttgccat ttttgaggc atggaagaga gacatgctcc tgagtgtgat 360  
 ggcctatgac tggttttag ccactgtca cccgctatat cattcaccat catgaaccgg 420  
 tgtttctgtg cctttctagt tttgtgtct tttttttct cagtcttcta gactcccagc 480  
 tgcacaactt gattgcctta caagtacact gcttcaagga tgtggaaatt cctaatttct 540  
 tctgtgaccc ttctcaactc ccccatcttg catgttgtga caccttcacc aataacataa 600  
 tcatgtattt cctgctgcc atatttggtt ttcttcccat ctgggggacc cttttctctt 660  
 actataaaat tgtttctctc attctgaggg ttctcatcctc aggtgggaag tataaagcct 720  
 tctccacctg tgggtctcac ctgtcagttg tttgtgtgatt ttatggaaga ggtgttggag 780  
 ggtacctcag ttcagatgtg tcatcttccc ccagaaaggg tgcagtggcc tgcagtgatg 840  
 tacacggtgg tcacctccat gctcaacccc tttatctaca gcctgagaaa cagggatatt 900  
 aaaagtgtct tgcggcggcc gcaa 924

<210> 785  
 <211> 714  
 <212> DNA  
 <213> Unknown (H38g635 nucleotide)

<220>  
 <223> Synthetic construct

<400> 785  
 atgtacttgt tcctgaggaa tctgtccttg cctgacatcg gtttcacctc caccattgtc 60  
 cccaagatga ttgtggacat ccagttctac agcagagtga tctcctatgc aggcgcctg 120  
 actcagatgt ctctctttgc catttttggg ggcattgga acaacatgct cctgagtgtg 180  
 atggcctatg accggtttgt agccatctgt caccctctat atcattcagc catcatgaat 240  
 ccgtgtttct gtggcttctt acttttgttg tctttttttt tttttctcag tcttttagac 300  
 acccagctgc acaacttgat tgctttacaa atgacctgct tcaaggatgt ggaaattcct 360  
 aatttcttct gtgaccttc tcaactcccc catcttgcct gttgtgacac cttcaccaat 420  
 aacatcatcg tgtatttccc tgcgtgcata tttgttttcc tteccatctc ggggacctt 480  
 ttctctttaa aactgtttgt ttcctccatt ctgagggttt catcatcagg cggaagtat 540  
 aaaaccttct ccacctgtgg gtctcacctg tcagttattt gcttatttta tggaaacaggt 600  
 gttggagggt acctcagttc agatgtgtca tcttccctga gaaaggctgc agtggcctca 660  
 gtgatgtaca agatggtcac ccccatgctg aacccttca tttacacctt gcgg 714

<210> 786  
 <211> 962  
 <212> DNA  
 <213> Unknown (H38g636 nucleotide)

<220>  
 <223> Synthetic construct

<400> 786  
 ttcaaacggt ccataacatt cacacctaca acattcactc tcgttggcat cccgggactg 60  
 gaggcagaac attatgtgga tatccatccc cttctgcctg atatacacca tcatctttcc 120  
 gggaaatggc atcattcttc acatcatccg aattgactct tccttgacc aaccatgta 180

ctattttctg	gccatgccgg	cctttgttga	acttggtgtc	tctgcttcca	ccatgcccac	240
tgtgttaagc	atattcctct	ttggcattaa	cgatgtcagt	tttgggtggt	gcctgctcca	300
gatgttttct	atgcactctt	tactcttat	ggagtcaggt	gtccttctgg	caatgtcagt	360
ggaccgcttt	gtggccatct	acagcccact	gcgctacaca	accattctga	caattgcctg	420
catttctggg	atgggtgccg	ccattgcctt	gcgcagtgtg	atgcttatgc	tcccactgct	480
ctttctcctg	aggcgtctgc	ctttctgtgg	ccacaatacc	ctcacacact	cttattgcct	540
ccactcagat	ctgatcaaat	tgccctgtgg	agacacacgc	cccaatagca	tcctggctct	600
atttgtcatt	accttcacat	ttggactgga	cttattgttc	attgtgggtt	cttatgtgct	660
gattcttcat	acagtactgg	aaatagcttc	tggagcaggg	cgtggcaggc	actcaacaca	720
tgtgtgtcgc	acatatgtgc	tgtgcttgtg	tactatgtgc	ccatgatcag	cctctcctga	780
tgcaccgctt	tggacggcat	ttacctccac	ttttccagac	tgtcacggcc	aatgcttacc	840
tcttctttcc	tcctgtgggt	aaccccattg	tctatagtat	caaaatcaaa	gaaattcgca	900
acagcgttgt	tcttacacta	tccaggaaga	ggggtgagtt	ctaattggaga	ccgaagatac	960
cc						962

&lt;210&gt; 787

&lt;211&gt; 872

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g637 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 787

acctcagagg	atccagaacg	gcagctggtc	cttgcctggac	tgttccctgtc	catgtgcctg	60
gtcatgggtgc	tggggaacct	gctcatcatc	cggccatgag	ccctgactcc	cacctccaca	120
cctccatgta	cttcttcttc	tccaacctgt	ccttgccctga	catcggtttc	acctccacca	180
cgggtcccca	gatgactgtg	gacatccagt	ctcgcagcag	agtcattctcc	tatgcaggct	240
gctgactca	gaagtctctc	tttgccattt	ttggaggcac	ggaagagaga	catgtctcctg	300
agtgtgatgg	cctatgaccg	gtttgtagcc	atctgtcacc	ctctatatca	ttcagccatc	360
atgaacctgt	gtttctgtgg	cttccctagt	ttgctgtctt	ttttttttct	cagtctttta	420
gactcccagc	tgtacaactt	gattgcctta	ctaattgacct	gcttcaagga	gggtggacatt	480
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ttttctctta	ctataaaatt	gtttccctcca	ttctgagggt	ttcatcatca	gggtgggaagt	660
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gtgttggagg	gtacctcagt	tcagatgtgt	catcttcccc	cagaaagggt	gcagtggctg	780
cagtgatgta	cacgggtggc	acctccatgc	tcaaccctt	tatctacagc	ctgggaacaa	840
gggatattaa	aagtgtcttg	cggcgggccgc	aa			872

&lt;210&gt; 788

&lt;211&gt; 646

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g638 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 788

ctagtggact	tttggtactc	ttcagctgtc	actcccacag	tcatagctgg	gctcgttata	60
ggagacaagg	tcattctctta	caatgcattg	gctgctcaaa	tggtcttttt	tgcagccttt	120
gccactgtgg	aaaatttctt	cttggcctca	atggcctatg	accgctatga	tgcagtgtgc	180
aaacccctac	attacaccac	caccatgaca	acaagtgtgt	gtgcatgtct	ggctataatc	240
tgttatgtct	gtgggtttct	gaatgcctcc	atacacattg	gggaaacatt	gtctctcttt	300
ctgtatgtcc	aatgaagtcc	attgcttttt	ctgtgatgtt	ccaccagtca	tggctctgtc	360
ttgctgtgat	agacatgtga	atgagctagt	tctcatttat	gtagccagtt	tcaatatctt	420
ttctgccatc	ctagtctatc	tgatctctta	cctattcata	tttatcacca	tcctaaagat	480
gcactcagct	tcaggatacc	agaaggcttt	gtccacctgt	gcctcccacc	tcactgcagt	540
catcatcttc	tatgggacta	ttatcttcat	gtacttacag	cccagctctg	gtcactccat	600
ggacacagac	aaactggcat	ctgtgttcta	tactatgatc	atcccc		646

<210> 789  
 <211> 648  
 <212> DNA  
 <213> Unknown (H38g639 nucleotide)

<220>  
 <223> Synthetic construct

<400> 789  
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 gagactcaga ccatctcctt ctgtggctgt ctcacacaga tgtatttcgt ttcatgttc 120  
 gtggacacgg acaatttcct cctagctgtg atggcctatg accactttgt cgccgtgtgc 180  
 cacccttac attacacagc aaagatgacc catcagctct gtgccctgct ggttgctgga 240  
 ttatgggtgg ttgccaacct gaatgtcctt ctgcacaccc tgctgatggc tccactctca 300  
 ttctgtgcag acaatgccat cactcacttc ttctgcatg tgactccct actgaaactc 360  
 tcctgtcag acacacacct caatgaggtc ataatcctta gtgaggggtgc cctgggtcatg 420  
 atcaccccat ttctttgcaa cctggcgtct tatatgcaca tcacctgcac tggcctgaag 480  
 ggcccatcca caaaggggaag gtggaaagcc ttctccacct gtggctctca cctggctgtg 540  
 ggtctcctct tctacagcac catcactgct gtgtatttta accctctgtc ctccactca 600  
 gctgcgaaag acactatggc tactgtgttg tatacagtag tgactccc 648

<210> 790  
 <211> 471  
 <212> DNA  
 <213> Unknown (H38g640 nucleotide)

<220>  
 <223> Synthetic construct

<400> 790  
 atctgcagcc ccttgtctgta caatgtcctc atgtcctatc accactgctt ctggctcaca 60  
 gtgggagttt acatttttagg catccttggg tctacaattc acaccggctt tatgttgaga 120  
 ctctttttgt gcaagactaa tgtgattaac cattattttt gtgatctctt ccctctcttg 180  
 gggctctcct gctccagcac ctacatcaat gaattactgg ttctgggtctt gagtgcattt 240  
 aacatcctga cgctgcctt aaccatcctt gcttcttaca tctttatcat tgccagcatc 300  
 ctccgcattc gctccactga gggcaggtcc aaagccttca gcaacttgca ctcccacatc 360  
 ttggctgttg ctgggttctt tgggtctgca gcattcatgt acctgcagcc atcatctgtc 420  
 agtccatgg accaggggaa agtgcctct gtgttttata ctattgttgt g 471

<210> 791  
 <211> 975  
 <212> DNA  
 <213> Unknown (H38g641 nucleotide)

<220>  
 <223> Synthetic construct

<400> 791  
 atgaagactt tgtgttcctt tcttcagatc agcagaaata tgcacaaaga aaaccaaacc 60  
 accatcactg aattcattct cctgggactc tccaaccagg ctgaacatca aaacctctc 120  
 tttgtgcttt tcttgagtat gtatgtgggtc actgtgggtg ggaacgggct catcattgtg 180  
 gctatcagct tggatatata ccttcacacc cccatgtatc tcttccttgc ctacctatcc 240  
 tttgtctgata tttcctccat ttccaactca gtccccaata tgctgggtgaa tattcaaac 300  
 aacagccaat ccatctctta tgagagctgc atcacacaga tgtacttttc tattgtgttt 360  
 gtcgtcactg acaatttgct tttggggacc atggccttcg accactttgt ggcgatctgc 420  
 caccctctga actatacaac tttcatgcgg gccagggttcg gcaactttgt cacagtcac 480  
 tegtgttcc tcagtaatat tattgtctct acacacaccc ttctgtcat tcaattgtc 540  
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 tcctgttcag atacaatgat caatgagctt gtgttgttta ttgtgggttt atcagttatc 660  
 atcttccctt ttgtactcat cttctctctc tatgtctgca tcacagagc tgtcctggga 720  
 gtatcatcca cacagggaag gtggaaagcc ttctccactt gtggctctca cctgacaatt 780

gcattactgt	tctacggaac	cactgtaggc	gtgtactttt	tcccctcctc	cactcaccct	840
gaggacactg	ataagattgg	tgctgtccta	ttcactgtgg	tgacacccat	gatgaacccc	900
ttcatctaca	gcttgaggaa	taaggatatg	aaagggtgcc	tgagaaagct	catcaataga	960
aaaatttctt	ccctt					975

&lt;210&gt; 792

&lt;211&gt; 943

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g642 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 792

atgagacctt	ataacagcat	tacagaattt	gtcctcctgg	gattctctca	ggatcctggg	60
atgcaaaaag	aattatttgg	catgttttta	ttcacatacg	ttgtgactgt	gttgggggaa	120
cagctcattg	tggtgactat	cattgccagc	ccttccttgg	gctccccaat	gtacttcttc	180
cttgccctgc	tgctatttat	agatgctgca	tatttctactg	tcatttctcc	caaattgatt	240
gtggacttac	tctgtgataa	aaagactatt	tccttccaaa	cgttcatggg	ccaactattt	300
atagaccact	tctttgggtg	tgcagaggcc	ttccttctgg	tggtgatggc	ctatgatcgc	360
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cttgcaattg	tggtggctgc	gacaggcggt	tttgtgcatt	ctgtgtttca	aattgtttgt	480
gtgtacagtc	tccctttctg	tggcgccaat	gtcattgatc	atttcagttg	tgacatgtat	540
ccattattgg	aactggcatg	aactgacacc	tactttatag	gcctcactgt	tgttttcagt	600
gggtggagcac	tctgtatggt	catcttcacc	cttctaataa	tttcctatag	ggtcaccta	660
aactccctta	aaacttacac	tcaggaaggg	agcataaagc	cctgtctacc	tgacagctccc	720
acatcactgt	gattgttctc	tttttattcc	ctgtatttcc	atatatgtga	gacctgtttc	780
aaacttttct	attgacacat	tcatgactgt	cttttatata	gttatcacac	ccaagttgaa	840
tcctttaata	tacactttca	gaaattcaga	gatgagaaat	gttatagaaa	aactcctggg	900
gaaaaaggta	actatattta	gaataacagg	gtccatcctc	atg		943

&lt;210&gt; 793

&lt;211&gt; 942

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g643 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 793

atgagacaga	ataaaaataa	tacagaattt	gtcctcttgg	gcttctctca	ggatcctgat	60
gtgcaaatgc	attattttgtc	atgttttact	cacataattg	gtgacaacag	tgggggaacct	120
gtcattgtg	gtgactatta	tgccagccc	ttccttgggc	tcccagtggt	atttctgact	180
tgccctgtctg	tcattgtatag	atgctgcata	ttccactacc	atttctccca	aactgattgt	240
agagttactc	attgataaaa	agactatttc	cttcagagct	tgcatgggcc	agctatttat	300
agaacacttg	tttgggtggt	ctgagatctt	cattctgatg	atgatggcct	gtgatcgcta	360
tgtggacatc	tgtaagccac	tgcaactatt	gaccatcatg	aattgacagg	tttgcaccc	420
tctgttgggtg	ttggctgtga	caggagggtt	tgtacattct	atgtttcaaa	ctgttgttgt	480
gtacaatctc	cctttctctg	gccccaatgt	cattgacatt	gaccactttg	tctgtgacat	540
gtaccacatta	ttggaactgg	cgttcactga	tacctacttt	ataggcctca	ctgttgttgt	600
caatgggtgga	gcaatgtgta	tggtcatctt	caccattcta	ctaataatcct	acggaatcat	660
cctaaactct	cttaaaaactt	atagtcagga	agggagggtg	aaagccctgt	ctacctgcag	720
ccccacata	accgtgggtg	tcctcttttt	tgttccctgt	attttcata	atgttagacc	780
tgtttcaacc	tttccatttg	ataaattcat	gactgtgttt	tatacagtta	tcacacccat	840
gttgaatcct	ttaatatata	cgttgagaaa	ttcagagatg	agaaactcta	tagaaaatct	900
cttgtgtaaa	aaagctatct	gtagttagaa	taagagtgtc	cc		942

&lt;210&gt; 794

&lt;211&gt; 945

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g644 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 794

gagtaaata	gacagaataa	cagtagtaca	gaatttggtc	tcctgggctt	ttctcaggat	60
cctgatgtgc	aaaatgcgct	atttgatcatg	tttttactga	catacattgt	gacaatgggtg	120
gggaacctac	tcattgtggg	gactattatt	gccagccctt	ccttgggctc	cccaatgtac	180
tttttccttg	cccacctgtc	atttatagat	gctgtgtatt	ccaccaccat	ttctcctgta	240
ttgattgtag	acttactctg	tgacaaaaag	acgatttcct	tctgagcttg	catgggacaa	300
ctgtttatag	accacttatt	tgggtggttct	gagggtcttc	ttctgggtgg	gatggcctgt	360
gatecgtgtg	tggccatctg	taagccactg	cactatttga	ccatcatgaa	tcgacagggt	420
tgcattcttc	tcttgggtgt	ggctgtgact	ggagggtttg	tgcacccctg	atttcaagtt	480
gttgttgtgt	acagtctccc	tttctgtggc	cccaatgtca	ttgaccactt	tttctgtgac	540
atataccctt	tatttgggaa	tggcatgcac	tgacacctac	tttataggcc	tcactgtggg	600
tttcaatggg	ggagcaatgc	gtatgggtcat	cctcaccctt	ctactagtct	tctatggagt	660
catcctaatac	tcccttaaaa	cttacagtca	ggaagggagg	cataaagccc	tgtctacctg	720
cagctcccat	gttaccgtgg	ttatcttggt	ttttgcttcc	tgtattttca	tatatgttag	780
acctgtttca	aattttctgt	tgataaatc	atgactgtgt	tttatacggt	tatcacaccc	840
atgttgaatc	cttttatatg	catgttgaga	aattcagaga	tgagaaatgc	tatagaaaaa	900
ctcctgtgta	aatgaactg	tagttagaat	aagagtgttc	cttcc		945

&lt;210&gt; 795

&lt;211&gt; 939

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g645 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 795

atgggactga	gtaacaatgt	tacagaactt	ttcctcctgg	gcctcactca	ggatctcgat	60
gtgcaaaatg	cattatttgt	catgttttta	ctaacataca	ttgtgactat	gggtggggaac	120
ctgctcattg	tgggtgactat	tattgccacc	ccatccttgg	gctccccaat	gtactttttc	180
cttgccctgcc	tgtcattttat	agatgctgtg	tattccacca	ccatttatcc	caaattgggt	240
gtagactaac	tccataatta	aaagactatt	ttgttcccaa	cttgcattggg	ccagccactt	300
acagaccact	tatttgggtgg	tgttgaggtc	tttttttctg	ttgggtgatgg	cctgtgatcg	360
ctatgtggcc	atctgtaagc	cactgcacta	ttttaccatc	atgaatcgac	agggttttcat	420
ccttctgttg	gtagtggctg	tgactggagt	tttgtgctgt	ctgtgttcca	aattgttgtt	480
gtgtacagtc	tccctttctg	tggccccaat	gtcattgacc	actttttctg	taacatgtac	540
ccattaatgg	aaatggcatg	aactgacacc	tactttatag	gcctcactgt	ggttttcaag	600
gttgaagcaa	tctgtgtggg	catcttcacc	cttctactaa	tctcctctgg	cgtcactcta	660
atctccctta	aaacttacag	tcaggaaggg	aggcataaag	ccctgtttac	ctgcagctcc	720
cgcattactg	tagttgtcct	cttttttgtt	ccctgtatatt	tcatgtatgt	tagacctgtt	780
tttaacttcc	ccattgataa	atttattatt	gtgttttata	cagttatcac	acccatgctg	840
aatcctttaa	tatacatgtt	gagaaattca	tagacgagaa	atgctataga	aaacccttag	900
tgtaaaaaat	taactgtaga	tagaataaga	gtgtacatc			939

&lt;210&gt; 796

&lt;211&gt; 945

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g646 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 796

atgagacctta	ataacagtat	tacagaattt	gtcctcctgg	gctttttcaca	ggatcctgat	60
atgcaaaaag	cattatttgt	catgttttta	ctcacataca	ttgtgacagt	gggtggggaac	120
ctactcgttg	cgggtgactat	tattgtcagc	ccttccttga	gctccccaat	gtaattcttc	180
cttgcttgcc	tgtcattaat	agatgctgta	ttatccacca	ccatttctcc	catattgatt	240

gtagacctac	tctgtgacaa	aaagactatt	tccttccag	cttgcatggg	ccagctattt	300
acagaccact	tgtttgggtg	aactgagatc	ttccttctgg	tggatgatgg	ctatgatcgc	360
tacgtggcca	tctgtaagcc	actgcaactat	ttaaccatca	tgaatcgaca	ggtttccatc	420
cttctgttgg	tgggtggccat	gactggaggt	ttccttcatt	ctgtgtttca	aattgctgtt	480
ctgtacagtc	tccttttctg	tggccccaat	gtcattgacc	actttttctg	tgacatgtac	540
ccattattgg	aactggcgtg	cactgacacc	tactctatag	gcctcactgt	agttttcagt	600
ggtggagcaa	tgtgtatgg	catcttcgcc	cttctactaa	tctcctatgg	agtcagccta	660
aaactcccta	aaacttatag	tcaggaaggg	aggcgtaaag	ccctgtctac	ctgcagctcg	720
cacatcacccg	tgggtgtcct	cttttttggt	ccctgtattt	tcattgtatgt	tagacctgtc	780
tcaaacttcc	ctattgataa	attcgttact	gtgttttata	cagttatcac	acccatgctg	840
aatccttttt	tatacacgtt	gagaaattca	gagatgataa	atgctataaa	acacctgttg	900
tgtagaagc	taactatagt	tagaataaga	gtgtccctcc	tcattg		945

&lt;210&gt; 797

&lt;211&gt; 967

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g647 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 797

atgggatcta	gtaacaatgt	tacagaat	gtcctcctgg	ccctcactca	ggctcctgat	60
gtgcaaaaag	tattatttgt	aatgttttta	ttcacatata	ttgtgactat	ggtgggcaac	120
ctgctcactg	tggtgaccat	ttttgccctc	cctcttttgg	ctccccagtg	taactcttcc	180
ttgcctgcct	gtcattgatg	gatgccgtat	attccacttc	atcttctcct	aaactgatga	240
tagacttact	ctgcgataaa	aaagactgtt	tccttcccg	cttgcatggg	ccagctattt	300
gcggaaccac	tatttgggtg	tgttgaggtc	tttcttttctg	tggggatggc	ctatgatcac	360
tatgtggcca	tctctaagcc	actgcactat	ttgatcatcg	tgaatcgact	ggtttgcac	420
cttctgttgg	tgggtggcgt	gactggagga	ttttgaattc	tatgtttctt	tttttttaaa	480
tttattttatt	tttttatgtg	aattctatgt	ttcaaattgt	cgttgtgtac	agtcctcctt	540
tctgtggctc	caatgtcatt	gaccacattg	tctgtgacat	gtaccatta	ctggaactgg	600
catgcgctga	cacctacttt	atagggtcca	ctgtgattgc	caatgggtgga	gcaatctgta	660
tggatcatctt	ctgccttcta	ctaacctcct	atggagtcac	cctaaacttc	cttaaaactt	720
atagtcaaga	agggagggcat	agaacctgtg	ctacctgcag	ctcccacatt	actgtgggtg	780
tcctcttttt	tgttccctgt	attttcatgt	atgtagagac	tgtttcaaac	ttccctattg	840
ataaattcat	tactgagttt	tatacagtta	tcaccccaaa	gttgaatcca	ttaatccaac	900
cactgagaaa	ttgagaaatg	agaattacta	tgaagaaact	ctgggtgtta	acctgaacta	960
tagttag						967

&lt;210&gt; 798

&lt;211&gt; 930

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g648 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 798

atgaaaaata	agaacaatgt	gactgaat	atcctcttag	ggctcacaca	gaaccctgag	60
gggcaaaaag	ttttatttgt	cacattctta	ctaattctaca	tggtagcgat	aatgggcaac	120
ctgcttatca	tagtgaccat	catggccagc	cagtcctctg	gttcccccat	gtactttttt	180
ctggcttctt	tatcattcat	agataccgtc	tattctactg	catttgctcc	caaaatgatt	240
gttgacttgc	tctctgagaa	aaagaccatt	tcctttcagg	gttgatggc	tcaacttttt	300
atggatcatt	tatttgctgg	tgctgaagtc	attcttctgg	tggtaatggc	ctatgatcga	360
tacatggcca	tctgtaagcc	tcttcatgaa	ttgatcacca	tgaatcgctg	agtcctgtgt	420
cttatgctgt	tggcggcctg	gattggaggg	tttcttcaat	cattgggttc	atttctcttt	480
atttatcagc	tccttttctg	tggacccaat	gtcattgaca	acttctctgt	tgatttgtat	540
cccttattga	aacttgcttg	caccaatacc	tatgtcactg	ggctttctat	gatagctaata	600
ggaggagcga	tttgctgtgt	caccttcttc	actatcctgc	tttctctatg	ggctcatatta	660
cactctctta	agactcagag	tttgggaagg	aaacgaaaag	cttctctacac	ctgtgcatcc	720

cacgtcactg	tggtcatttt	attctttgtc	ccctgtatct	tcttgatgc	aaggcccaat	780
tctacttttc	ccattgataa	atccatgact	gtagttctaa	cttttataac	tcccatgctg	840
aaccactaa	tctataccct	gaagaatgca	gaaatgaaaa	gtgccatgag	gaaactttgg	900
agtaaaaaag	taagcttagc	tgggaaatgg				930

&lt;210&gt; 799

&lt;211&gt; 825

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g649 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 799

atggtgggaa	acctcctcat	ttgggtgact	actattggca	gccccctcct	gggctcccta	60
atgtacttct	tccttgccca	cttggtcactt	atggatgccca	tatattccac	tgccatgtca	120
cccaaattga	tgatagactt	actctgtgat	aaaatcgcta	tttccttgct	agcttgcatg	180
ggtcagctct	tcatagaaca	cttacttggt	ggcgagagg	tcttcctttt	gggtggtgatg	240
gcctatgac	gctatgtggc	tatctctaag	ccgctgcact	atgtgaacat	catgaatcga	300
ctggtttgca	tccttctgtt	gggtggtggcc	atgattggag	gttttgtgca	ctctgtgggt	360
caaattgtct	ttctgtacag	tctaccaatc	tgtggcccca	atgttattga	ccactctgtc	420
tgtgacatgt	acccattggt	ggaactgttg	tgccctgaca	cctactttat	aggactcact	480
gtggttgcca	atggtggaat	aatttgtatg	gtcatcttta	cctttctgct	aatctcctgt	540
ggagtcaccc	taaacttcct	taaaacttac	agtcaggaag	agaggcataa	agccctgcct	600
acctgcatct	cccacatcat	tgtggtggcc	ctcgtttttg	ttccctgtat	ttttatgtat	660
gttagaccgg	tttccaactt	tccttttgat	aaattaatga	ctgtgtttta	ttcaattate	720
acactcatgt	tgaatccttt	aataatactcg	ttgagacaat	cagagatgaa	aaatgctatg	780
aaaaatctct	gggtgtgaaa	gttaagtata	gttagaaaaa	gagta		825

&lt;210&gt; 800

&lt;211&gt; 654

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g650 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 800

ttgcctgaca	tgggtttcac	ctccaccacg	gtccccaaga	tgattgtgga	catccagtct	60
cacagcagac	tcattctcta	ggcaggctgc	ctgactccca	tgtctctctt	tgccatcttt	120
ggaggcatgg	aagagagaca	tgctcctgag	tgtgatccct	atgaccggtt	tgtagccatc	180
tgtcaccctc	tatatcatte	agccatcatg	aaccggtgtt	tctgtggctt	tctagttttg	240
ttgtcttttt	tttctcagtc	tcttttagac	gcccagggtg	acaacttgat	tgcccttaca	300
atgacctgct	tcaaggatgt	ggaaattcct	aatttcttct	gggaaccttc	tcaactcccc	360
catcttgcac	gttgcgacac	cttcaccaat	aacataatca	tgtattcccc	tgctgccata	420
tttggttttc	ttcccatctc	ggggaccctt	ttctcttact	ataagattgt	ttcctccatt	480
ctgagggttt	cttcacacag	tggaagtat	aaagccctct	ccacctgtgg	gtctcgccctg	540
tcagttgttt	gctgagttta	tggaacaggc	gttgagaggt	acctcggttc	agatgtgtca	600
tcttccccga	gaaagggtgc	agtggcctca	gtgatgtaca	cggtggtcac	cccc	654

&lt;210&gt; 801

&lt;211&gt; 648

&lt;212&gt; DNA

&lt;213&gt; Unknown (H38g651 nucleotide)

&lt;220&gt;

&lt;223&gt; Synthetic construct

&lt;400&gt; 801

tcaatggccc	tcattgtcat	ctgcaccacc	ggaccaaga	ggccttcaac	tacctgtctg	60
gcagcaagtc	ccatttctat	ggctgttgtg	ccacacaaat	tttcttctat	acatcactgc	120